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V. 17#15

VOL. XVII. 8.

SEPT. 15, 1889.

PEACE ON EARTH
★
GOD WILL FAVOR MEN



CLEANINGS
IN

BEE CULTURE

DEVOTED
TO
THE SWEET

& HOME INTERESTS.

MEDINA OHIO
BY
A. ROOT

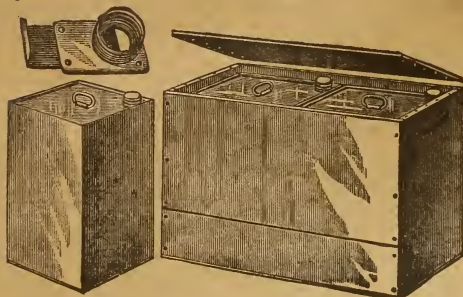
TERMS, ONE DOLLAR PER YEAR.

FRANKLIN, DUNCKER, & CO.

ENTERED AT THE POSTOFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.

Glass and Tin Honey Packages for Shipping and Retailing Extracted Honey.

QUARE CANS FOR SHIPPING EXTRACTED HONEY.



The above cut shows our favorite package for shipping extracted honey. The oblong box contains two square cans as shown, each can holding 60 pounds of honey. The whole package is the most complete thing we have ever seen for holding and shipping 120 lbs. of honey or over. There is no shrinkage and consequent leaking, no taint to the honey from wood as is so frequently the case with barrels and kegs. The cans being made square economize space and are easily boxed. A stick, one inch square, is laid over the tops of the cans, before the cover is nailed. The bee men of California who produce from 20 to 100 tons of honey annually, use these cans exclusively.

1 box of two cans.....	\$ 75	1 can, boxed singly . . .	\$ 45
10 " " "	7 00	10 " " "	4 20
100 " " "	65 00	100 " " "	40 00

With a large 4-inch screw-cap as well as small one, 5c extra each can. These are convenient for digging out candied honey.

We can ship these 60 and 12 lb. sq. cans from St. Louis, Mo., or New York City, when desired, at same prices.

We can furnish, when desired, a honey-gate to fit the screw caps to the foregoing cans as shown at the upper left hand corner of cut. This is a great convenience for retailing honey, as the stream can be stopped instantly. There is no danger of filling small honey-receptacles to overflowing.

Price 15c. each; \$1.25 for 10; \$10 per 100.

ONE - GALLON (12-LB.) SQUARE
CANS. 10 IN A CASE.

We have made arrangements so that we can furnish 12-lb. sq. cans, same style as our regular 60-lb. cans, 10 in a box. These will be shipped direct from St. Louis or from here, at the following prices:

One box of ten 12-lb. cans.....	\$1.50
10 boxes at \$1.40.....	14.00
100 boxes at \$1.30.....	130.00
100 cans in a crate without boxes.....	12.00



4-qt. 3-qt. 2-qt. 1-qt. 1-pt.
A NEST OF 5 RAISED-COVER PAILS.

Post.	Each.	Price.			Weight of		
		10	50	100	50	100	
50	Nest of 5 pails as shown.....	40	3 60	16 50	32 00	200	400
	Nest of 3 smaller pails.....	20	1 75	8 00	14 50		175
	Nest of 3 smaller pails, painted, and lettered PURE HONEY.	30	2 75	13 00	25 00		190

Above we give engravings of the most popular tin pails for honey. You will observe that they are made with the intention of nesting one in the other. This saves transportation, for they go by freight, when thus nested, at same rate as the stamped ware.

We can not break packages of 50, unless we charge ten rates for them, for they are boxed up 50 in a box; and to open the boxes and make a new one is quite a task.

You will observe, friends, that 100 pails of each size cost \$35.25, while 100 *nests* are worth only \$32.00. The difference is in consequence of the extra boxes that would be required, if they are shipped without

being nested inside of each other, and this is an argument in favor of nested pails. It also accommodates customers; for if you keep one of each size constantly filled with honey, you can be in readiness to suit the taste or pocketbook of almost any one who wants to purchase honey.

The nest of three of the above pails (capacity one pint, one quart, and two quarts), painted and varnished, and ornamented with the words, "Pure Honey," are, perhaps, the handsomest package that is made for holding honey, and the pail is a most beautiful one for many purposes after the honey is taken out.



NOVELTY PAILS.

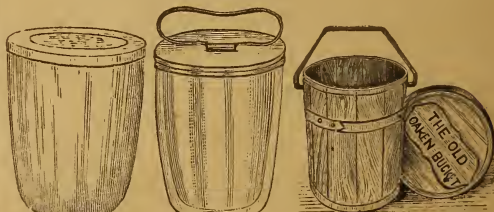
The illustration explains them better than words. Four sizes, nested; largest size, 4 qt., not shown in cut.

	Each.	Price.			Wt. of
		10	50	100	50 100
1, 2, 3, & 4 qt. Novelty pails, nested.	40	3 60	16 50	32 00	200
1 & 2 qt. Novelty pails nested.	15	1 40	6 50	12 00	150

Prices singly, same as raised-cover pails above, but not in quantity, as we keep them only nested.

Prices singly, same as raised-cover pails above, but not in quantity, as we keep them only nested.

GLASS HONEY TUMBLERS AND PAILS.



Glass Tumbler.

Nos. 788 and 789.

Screw-top Pail

Nos. 775 to 778.

Oaken Bucket Pail.

TABLE OF PRICES—NO CHARGE FOR PACKAGES.

TABLE OF PRICES—NO CHARGE FOR PACKAGES.

Please order by number and name, and give price.

	Capac.	Price.	Barrel
1000	1000	1000	1000
2000	2000	2000	2000
3000	3000	3000	3000
4000	4000	4000	4000
5000	5000	5000	5000
6000	6000	6000	6000
7000	7000	7000	7000
8000	8000	8000	8000
9000	9000	9000	9000
10000	10000	10000	10000

Number and Name.	ity.	Ea.	100	No.	Pr.
No. 788, ½-lb. tumbler.....	10 oz.	3	28	250	250 35 00
No. 789, one-pound tumbler.....	16 oz.	3	30	200	200 5 00
Nos. 788 and 789, nested.....		6	57	5	250 9 00
No. 775, ½-lb. screw-top glass pail.....	11 oz.	5	40	350	250 7 30
No. 776, small pound screw-top pail.....	14 oz.	5	42	375	250 6 00
No. 777, large pound screw-top pail.....	17 oz.	6	52	475	150 6 00
No. 778, ½-lb. screw-top glass pail.....	24 oz.	7	65	600	100 6 00
1-lb. Oakan Bucket, pail.....	10 oz.	5	42	375	200 6 00
1-lb. Oakan Bucket, pail.....	16 oz.	5	45	430	150 6 00

In lots of 5 bbls., any one or assorted kinds, 5% off.
Please notice these points in the table above.

1. The capacity as given is what each will hold, well filled with honey of good consistency.

2. The price of one, 10, and 100 is given in the 2d to 4th columns; the fifth column gives the number in a barrel, and the 6th column the price of a barrel.

3. Notice that it is much the most economical to buy them in barrel lots, if you can use so many. The reason for this is, that all manufactures of glassware have a uniform charge for packages, and a barrel has the largest capacity for the price of any thing used. Every barrel, large or small, costs us 35 cts.; a box, holding only half as much, costs the same. Thus by taking large barrels, well filled, we give you the most value for the money.

4. We can not break packages of 100 or barrels at the price of a full package.

5. The most skilled packers are employed, and goods are delivered to transportation companies in good order; we will not, therefore, be responsible for any breakage.

A. I. ROOT, Medina, Ohio.

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CONVENTION NOTICES.

The next meeting of the Fayette Co., Ohio, Bee-keepers' Association will be held at the residence of Mr. Joseph Bonham, Washington C. H., O., on Wednesday, Oct. 2, 1889, at 10 o'clock.
S. R. MORRIS, Sec'y.

The annual meeting and basket picnic of the Progressive Bee-keepers' Association will be held at the residence of Mr. F. E. Dutton, near South Newbury, Geauga Co., O., on Thursday, Oct. 3, 1889. All interested are invited to attend.
Bedford, O., Sept. 10. MISS DEBA BENNETT, Sec'y.

The American International Bee-keepers' Association will meet in the Court-house, Brantford, Canada, Dec. 4, 5, 6, 1889. All bee-keepers are invited to attend. State and district bee-keepers' societies are invited to appoint delegates to the convention. Full particulars of the meeting will be given in due time. Any one desirous of becoming a member, and receiving the last annual report, bound, may do so by forwarding \$1.00 to the secretary.
R. F. HOLTERMANN, Sec'y.
Brantford, Ont., Can.

The Northwestern Bee-keepers' Society will hold its annual convention at the Commercial Hotel, corner of Lake and Dearborn Sts., Chicago, on Friday and Saturday, Oct. 11 and 12, at 9 a.m. Arrangements have been made with the hotel for back room, one bed, two persons, \$1.75 per day, each; front room, \$2 per day, each person. This date occurs during the exposition, when excursion rates on the railroads will be one fare for the round trip, good from Oct. 10 to 14, inclusive. There has been a fair crop of honey in the West, and an old-time crowd may be expected at this revival of the Northwestern from its "hibernation."
W. Z. HUTCHINSON, Sec'y.

Black and Hybrid Queens For Sale.

Fifteen choice untested Italian queens, at 35 cts. each, or four for \$1.10
G. H. DENMAN, Pittsford, Mich.

Four very prolific hybrid queens, two of them nearly pure Italians, at 30c each, or all four for \$1.
FRANK MOORE, Frost, Ky.

BEE-KEEPERS AND FRUIT-GROWERS,

Send for my price list of

BEE-KEEPERS' SUPPLIES AND STRAWBERRY-PLANTS.

Twenty-five varieties to select from.

Address F. W. LAMM,

Box 106, SOMERVILLE, - BUTLER CO., OHIO.
18-23db

Writing and Pencil Tablets.

We have secured a bargain in these, and propose to give you the benefit of it. We have thirteen different styles, of which we give size, number of leaves, name, and price, in the following table. You can write with a pen on any of the tablets, although most of them are designed for penciling.

Name or Designation.	Size in inches.	No. of Leaves.	Post. Price of	
			on 1.	10
Our Pets Ruled Pencil Tablet.	5 x 8	60	5	3 25
No. 0 Ruled Pencil Tablet.	5½ x 8	70	5	3 25
Ideal Unruled Pencil Tablet.	7 x 10	30	5	4 30
Monumental Unruled ditto.	8 x 12	65	10	5 45
Greenaway Ruled ditto.	7½ x 10½	42	6	5 40
No. 00 Ruled Pencil ditto.	7½ x 10½	70	10	7 60
Geographical ruled ditto.	6 x 9	180	13	7 60
Student's Note-Book.	5½ x 8½	80	8	7 60
America Writing Tablet.	6 x 9	60	8	7 60
No. 36 Writing Tablet.	5½ x 8½	65	8	7 60
No. 65 Linen Writing Tablet.	5½ x 8½	80	7	15 120

In case we get out of any one style we reserve the right to substitute one as near like it as possible. Notice, the cost of mailing is greater than the original cost, so that you don't get much benefit of the low price unless you can order with other goods by freight. "Our Pets" has assorted chromo pictures of children with pet animals on the covers. "Ideal" has assorted child's faces. "Monumental" has a picture of Garfield Monument. "Greenaway" series have assorted chromo pictures. "Geographical" have assorted maps of different States. Student's note-book is thoroughly bound, cloth back. "America" has lithographic views of several celebrated scenes in America.

A. I. ROOT, Medina, O.

BEES SEND for a free sample copy of the BEE JOURNAL - 16 page Weekly at \$1 a year - the oldest, largest and cheapest Weekly bee-paper. Address
16tfdb BEE JOURNAL, Chicago, Ill.

LITHOGRAPH LABELS

In 12 Colors, at \$2.00 per 1000.

The 12 colors are all on each label. They are oblong in shape, measuring 2½ x 2¾. They are about the nicest labels we ever saw for glass tumblers, pails, and small packages of honey. We will mail a sample, inclosed in our label catalogue, free on application, and will furnish them postpaid at the following prices: 5 cts. for 10; 35 cts. for 100; \$1.20 for 500; \$2.00 for 1000.
A. I. ROOT, Medina, O.

Cash for Beeswax!

Will pay 21c per lb. cash, or 24c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 30c per lb., or 33c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

THE REVISED LANGSTROTH, and DADANT'S FOUNDATION.
See advertisement in another column.

NOW IS THE TIME FOR MARKETING HONEY, AND NEW YORK IS A GOOD MARKET.

We make liberal advances in CASH on consignments, sell quickly at highest obtainable market prices, and pay the net proceeds IMMEDIATELY after honey has been sold. We charge for commission and GUARANTEE of payment, five per cent. Ship by freight to

F. G. STROHMEYER & CO.,
WHOLESALE HONEY MERCHANTS,
122 WATER STREET, NEW YORK.

KIND WORDS FROM OUR CUSTOMERS.

The scales and other goods came to hand all O. K. The scales are very nice, and are cheaper than we could get them here by having a merchant to buy them at wholesale.

MILLER BROS.

Bluffton, Mo., Aug. 1, 1889.

I received the bees in very good order and shape. The evening I received the bees, I put them in a hive, and next day the Ohio emigrants were working splendidly. Many thanks.

J. M. G. KALLISH.

East Portland, Oregon, July 27, 1889.

THE BUCKEYE SASH-LOCK.

The goods ordered from you came to hand in good shape. The buckwheat (Japanese) is up and doing well. I expect an immense crop. I never saw buckwheat stand nicer. The Buckeye sash-locks are nice. My mother says they are just the nicest things to fasten up windows. I wonder how you can sell them so cheap.

H. D. FRIEND.

Douglas, O., Aug. 10, 1889.

ONLY 20 BEES DEAD OUT OF A POUND, IN GOING CLEAR TO TEXAS.

The bees and queen came through safe and sound, not over 20 dead bees in the case. I could not find the queen at first, or I would have answered sooner. We have found her now. She is all right.

J. B. FULTON.

Dripping Springs, Tex., Aug. 10, 1889.

2000 EGGS A DAY, IN ONLY 4 DAYS AFTER GOING THROUGH THE MAILS.

The tested queen I received from you was successfully introduced the 19th, and on the 23d I found her depositing eggs at the rate of 2000 per day. I also wish to say the queen you sent me is a very handsome as well as a very large one for a young one. Please accept thanks for prompt shipment.

Reinersville, O., Aug. 24, 1889.

J. E. PECK.

THE WHITMAN PUMP A TERROR.

The Whitman pump arrived in good condition. Thanks for your promptness. The pump is a jewel, but I don't know but I shall regret the day I got it, for in the hands of my little boy it is a terror. The cat, dog, chickens, his sister, and even papa, have to feel the force of that Whitman pump.

Dehesa, Cal., Aug. 23, 1889.

A. W. OSBURN.

DOUBLE QUICK.

I received my goods yesterday at noon. I think it was the quickest time on record. I wrote my letter and dropped it in the postoffice on the evening of the 20th, but it did not go out till the next morning. Your card states you received it the 22d, and I received the goods the 23d at noon. Who can beat it?

JOS. C. DEEM.

Knightstown, Ind., Aug. 24, 1889.

CHEESE AND HONEY.

The goods came to hand all right; and to say that I am pleased, would not near express my feelings. The goods all through are the nicest I ever saw. I have had but little time this year to devote to bees, as my work has been of such a nature that I could not give them any time except at night, as I have had charge of a cheese-factory, and we have manufactured from 500 to 600 lbs. per day; and, as you state in your last journal, my time was my employer's until night; however, I have increased from 24, spring count, to 70, and have secured all of 2000 lbs. of comb honey; so you see my bees were busy as well as I.

M. D. JOHNSON.

Webster, Ia., Aug. 15, 1889.

HOW TO TELL WHEN A WATERMELON IS RIPE, ETC.

I raised nearly \$50 00 worth of sweet-potato plants this year. I got every thing I know about raising them, from GLEANINGS. Market-gardening is not quite so glorious as with you. Our city has 3500 people, and only two or three market-gardeners; but the foreign farmers bring their produce, cabbages, etc., to the stores, and raise havoc with prices. Peas are only 60 to 85 cts. per bushel for American Wonder, and big lima, like Stratagems, at

that. I wish you would start people to writing about how to tell a ripe watermelon by sight. My hearing has broken down, and how can I tell when my Green & Gold's, White Gems, etc., are ripe? I wish Mr. Terry or Mr. Henderson could be heard on this point, as much loss comes from picking green melons.

M. S. BENEDICT.

Crete, Neb., July 5, 1889.

THAT SINGER SEWING-MACHINE.

I have received and tried the No. 4 Singer machine. It is not only a beauty, but does good work. We consider it a bargain. I must compliment you on being able to offer such a machine at so small a price. It gives entire satisfaction. I have 110 stands of bees. They have done very well.

Civer, Ill., Aug. 27, 1889.

JAMES F. NEWTON.

\$5.00 Secures a Home in the "Sunny South."

There has been placed in my hands for sale, 100 lots in a newly laid-out "city," in one of the most beautiful and healthful portions of Nature's great sanitarium—Western North Carolina, at prices ranging from \$5 00 to \$25 00 each, according to size and location. *Title perfect; warranty deed given.* Near the junction of two-trunk line railroads, one completed, the other nearly so; climate unsurpassed, winters mild, summers pleasant; *fine water*, beautiful mountain scenery, good soil; gold and other minerals in vicinity; building material abundant and cheap. Lots selling rapidly. Several farms for sale. For particulars address

C. F. PARKER, Montone, Ala.

In responding to this advertisement mention GLEANINGS.

A NEW BOOK ON BEES, and DADANT'S FOUNDATION.

See advertisement in another column.

Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 5 lines, and you must say you want your ad. in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

WANTED.—To exchange, country-store building and one-half acre in Barry Co., or 80 acres fine land in Emmett Co., Mich. for small place in good locality for honey and fruit. Would take some farm stock, or bees in part. J. L. COLE, 18d
Boyne City, Charlevoix, Mich.

WANTED.—To exchange Partridge Cochins for 18d
Apiarian supplies. F. WEATHERILL,
Jonesville, N. Y.

WANTED.—To exchange honey for beeswax. We will take beeswax in exchange for honey in any quantity. Will give three pounds for one. Write for particulars. CHAS. DADANT & SON, 18tfdb
Hamilton, Hancock Co., Ill.

WANTED.—To exchange 3 L. frame nucleus, with yellow Italian queen, in one-story Simplicity hives, worth \$2.00, for white paint, or offers. MRS. OLIVER COLE, Sherburne, Chenango Co., N. Y.

WANTED.—To sell or exchange, Italian bees and queens, and supplies. Address OTTO KLEINOW, 4tfdb
No. 150 Military Ave., Detroit, Mich.

DUBACH, Jessie, Warfield, Hoffman's Seedling, D May King, and Crescent strawberry-plants, cheap, in exchange for comb or extracted honey, sections, or beeswax. Plants true to name. Write to E. T. FLANAGAN, Belleville, Box 995. St. Clair Co., Ill.

WANTED.—To exchange extracted honey for a Barnes improved saw, sections, foundation, family Bible, or Webster's Dictionary. 17d
WM. PEARSON, Oswalt, Iowa.

A POSITIVE FACT

QUEENS BY RETURN MAIL

From the Old and Reliable Knickerbocker Bee-Farm (Established 1880).

Circular and Price List Free.

13-14tfd G. H. KNICKERBOCKER,
BOX 41. Pine Plains, Dutchess Co., N. Y.

☞ In responding to this advertisement mention GLEANINGS.

THE BEST YELLOW ITALIAN QUEENS AT \$1.50 EACH.

I also wish to sell my newspaper subscription agency on account of the press of other work. Catalogue, and any other information free on receipt of postal request. The highest bidder takes it. Good reference given and expected.

C. M. GOODSPEED, 4-50d THORN HILL, N. Y.

☞ In responding to this advertisement mention GLEANINGS.

ITALIAN

QUEENS. Tested, \$1.50. Untested, 75c. Mismatched, 35c. Send for price list.

Miss A. M. TAYLOR, Mulberry Grove, Bond Co., Ill.
17tfdB Box 77.

THE HIVE AND HONEY-BEE, and DADANT'S FOUNDATION.
See advertisement in another column.

FOR PURE ITALIAN BEES,
POLAND-CHINA SWINE, WHITE AND BLACK
FERRETS, WHITE RABBITS, WHITE
AND BROWN LEGHORN CHICKENS, AND
MALLARD DUCKS, ADDRESS
N. A. KNAPP, ROCHESTER, LORAIN CO., OHIO.
17tfdB

Cash Paid for Beeswax.

CORRESPONDENCE SOLICITED.

R. B. LEAHY & CO., Higginsville, Mo.
17-18-19d

ITALIAN QUEENS by return mail; tested, \$1;
untested, 75c. LEININGER BROS.,
16tfdB Douglas, Putnam Co., Ohio.

MUTH'S

HONEY-EXTRACTOR.

SQUARE GLASS HONEY-JARS.

TIN BUCKETS, BEE-HIVES.

HONEY-SECTIONS, &c., &c.

PERFECTION COLD-BLAST SMOKERS.

Apply to CHAS. F. MUTH & SON,

CINCINNATI, O.

P. S.—Send 10-cent stamp for "Practical Hints to Bee-Keepers."
(Mention Gleanings.) 17tfdt

Italian and Carniolan Queens.

Thirty years a queen dealer. Prices low. Circular free.

HENRY ALLEY, Weyham, Mass.

☞ In responding to this advertisement mention GLEANINGS.

No. 1, \$2.00; No. 2, \$1.75; No. 3, \$1.50 | Knife
No. 4, 1.25; No. 5, 1.00; No. 6, 65 | \$1.15
On receipt of the above price



SMOKERS and KNIVES

will be sent postpaid. Descriptive circulars will be sent on receipt of request card.
Bingham & Hetherington Smokers and Knives are staple tools, and have been used ten years without complaint, and are the only stovewood burning clear-smoke bee-smokers; no going out, no vexation. Address

BINGHAM & HETHERINGTON, Abnoria, Mich.

☞ In responding to this advertisement mention GLEANINGS.

BEE-HIVES, SECTIONS, ETC.

We are now selling our No. 1 V-groove sections, in lots of 500, at \$3.00 per 1000; No. 2 sections at \$2.00 per 1000. For price of Italian queens, foundation, smokers, etc., send for price list.

J. STAUFFER & SONS,
Successors to B. J. Miller & Co.,

16tfdB

Nappanee, Ind.

☞ In responding to this advertisement mention GLEANINGS.

BEE-HIVES, SECTIONS, ETC.

WE make the best bee-hives, shipping-crates, sections, etc., in the world, and sell them cheapest. We are offering our choicest white one-piece $1\frac{1}{4} \times 1\frac{1}{4}$ sections, in lots of 500, at \$3.50 per 1000.

☞ Parties wanting more, write for special prices. No. 2 sections, \$2.00 per 1000. Catalogues free, but sent only when ordered. 17tfdB

G. B. LEWIS & CO., Watertown, Wis.

☞ In responding to this advertisement mention GLEANINGS.

California.

FOR SALE.—A well-established trade in the supply business. For particulars apply to
16-17-18d Box 2, Duarte, Cal.

HOME EMPLOYMENT. — AGENTS wanted everywhere, for the HOME JOURNAL—a grand family paper at \$1 a year. Big cash premiums. Sample FREE. THOS. G. NEWMAN & SON, 923 & 925 West Madison Street, - CHICAGO, ILLS.

☞ In responding to this advertisement mention GLEANINGS.

For Sale Cheap.

We have to sell at a bargain a 1-horse-power Shipman coal-oil engine. It was a second-hand which we sent to the factory and had made over new. Is now as good as a new engine. We offer it for \$80. For any one who wants only a small power it is a bargain. Price of a new one I believe is \$125.00.

A. I. ROOT, Medina, Ohio.

THE BEE-KEEPERS' REVIEW.

A 50-cent monthly that gives the cream of apicultural literature; points out errors and fallacious ideas; and gives, each month, the views of leading bee-keepers upon some special topic. Three samples free.

W. Z. HUTCHINSON, Flint, Mich.

Please mention GLEANINGS.

13tfdB

APIARIAN SUPPLIES CHEAP.

BASSWOOD V-GROOVE SECTIONS, \$2.75 to \$3.75
PER M. SHIPPING-CASES VERY LOW.

SEND FOR PRICES.

COODELL & WOODWORTH MFG. CO.,
3tfdB ROCK FALLS, ILLINOIS.

☞ In responding to this advertisement mention GLEANINGS.

AN OLD BEE-BOOK REVISED, and DADANT'S FOUNDATION.
See advertisement in another column.

The Secrets of Success in the Growing of Small Fruits

Gives you the benefit of several years' experience in growing berries for market, together with my illustrated catalogue and price list of berry-plants; sent free on application. Now is the time to set strawberries for next year's fruiting. Jessie, Cloud, and other new varieties. 16-19dB

I. A. WOOLL, Elsie, Mich.

☞ In responding to this advertisement mention GLEANINGS.

HONEY COLUMN.

CITY MARKETS.

PHILADELPHIA.—Honey.—Honey in the comb is now arriving, and the demand increasing accordingly. We have advanced our prices, and feel confident of their remaining as quoted. We quote as follows: Fancy white, 1-lb. in neat cases, 17@18; same, 2-lbs., 14@15; fancy buckwheat, 1-lb., in neat cases, 12@13; same, 2-lbs., 10@11. Off grades of all kinds 1@2c less than above. Extracted is same as our letter of Aug. 15.

Sept. 5. WALKER & McCORD,
32 & 34 So. Water St., Philadelphia, Pa.

COLUMBUS.—Honey.—Our market remains about the same for No. 1 honey in 1-lb. sections. Poor and off stock meets with slow sale, trade wanting fine white clover or basswood. The market on extracted honey about cleaned up; a shipment of that kind would meet with ready sale. We would advise all parties that ship to this market to ship by freight, as the charges are less, and goods come in better condition.

Sept. 9. EARLE CLICKENGER,
Columbus, Ohio.

NEW YORK.—Honey.—Good demand for both comb and extracted honey. We quote: Fancy white, 1-lbs., 16; 2-lbs., 14. Off grades, about 2c a lb. less. Buckwheat, 1-lbs., 11@12; 2-lbs., 9@10. Extracted, basswood and clover, 8; orange blossom, 8; buckwheat, 6@6½; California, amber, 7@7½; Southern, 65@70c a gallon.

Sept. 10. HILDRETH BROS. & SEGELKEN,
New York.

MILWAUKEE.—Honey.—The new crop of honey is coming in and is of very fine quality. The demand is fair, and values easy. Will quote: Choice white, 1-lb. sections, 14@15; second quality white, 12½@14; old 1-lb. sections, 10@12. Extracted white, in tins and pails, 8@8½; same, in barrels and kegs, 7@8; dark, in barrels and kegs, nominal, 5@6. *Beeswax*, 22@25.

Sept. 5. A. V. BISHOP,
Milwaukee, Wis.

CINCINNATI.—Honey.—There is a fair demand for all kinds of honey. Arrivals of extracted honey are good, while good comb honey is scarce in our market. The latter sells at 11@16 in a jobbing way. Extracted honey brings 5@8 on arrival. *Beeswax*.—There is a good home demand for this, which brings 20@22 for good to choice yellow on arrival.

Sept. 11. CHAS. F. MUTH & SON,
Cincinnati, Ohio.

BOSTON.—Honey.—Honey has arrived quite freely, and it has been the disposition of some receivers to sell. Owing to the warm weather, prices have had to be shaded. Our market to-day is: 1-lb. white, 16@18; 2-lb. white, 16@17. Extracted, 8@9. *Beeswax*, none in stock. We look for better prices later in the season, and would not advise bee-keepers to rush their honey on to the market.

Sept. 9. BLAKE & RIPLEY,
Boston, Mass.

KANSAS CITY.—Honey.—The market is still slow. White comb 1-lb., 14@15; same, 2-lbs., 13@14; dark comb, 1-lb., 10@12; same, 2-lb., 10. Extracted, white, 7@8; amber, 5@6. *Beeswax*, 20@22.

Sept. 8. CLEMONS, CLOON & CO.,
Kansas City, Mo.

PHILADELPHIA.—Honey.—The inquiry for No. 1 honey, 1-lb. sections, has begun. I imagine the price will start at about 14@15c, the latter being my usual starting price. Yellow *beeswax* is in demand, at 23c.

Sept. 9. CHAS. E. SHOEMAKER,
44 So. Water St., Philadelphia, Pa.

NEW YORK.—Honey.—Extracted, California, orange bloom, white clover and basswood, 8c. Comb honey, 1 lb., fancy white, 16c; 1 lb., fair, 14; 2 lb., fancy, 14; 2 lb., fair, 12. Demand very good for first quality.

Sept. 10. F. G. STROHMEYER & CO.,
New York.

DETROIT.—Honey.—Very little coming in; demand slow. Best selling at 14@15c. *Beeswax*, 24c.

Bell Branch, Mich., Sept. 9. M. H. HUNT.

CHICAGO.—Honey.—Honey is not selling very fast. We are now expecting trade to be better, as the weather has got colder. The market is well supplied, and sales are made in some instances very low. No lots can be sold at over 13@14c, and some less, if at all out of prime condition. Extracted 6@8; sales chiefly at 7c for best white in barrels or kegs. *Beeswax*, 25; very little offered.

Sept. 10. R. A. BURNETT,
161 So. Water St., Chicago, Ill.

ALBANY.—Honey.—Market firm on all grades of comb honey; receipts now not equal to demand, and we think prices are now the best of the season. Comb, white, 16@18; mixed, 14@15; dark, 12@13; mixed, 12@14. Extracted, white, 7½@8½; dark, 6@7. Consignments solicited.

Sept. 8. H. R. WRIGHT,
Albany, N. Y.

WANTED.—300 or 300 lbs. of good extracted honey. Who will furnish it the cheapest, delivered at Brattleboro, Vt., or Greenfield, Mass.?

W. J. HILLMAN, Green River, Vt.

WANTED.—Several hundred pounds of white extracted honey, in 60-lb. square tin cans. Price must be low, because freight charges are very high to this distant place.

G. G. MEAD, Ferris, Wyoming.

FOR SALE.—One barrel of A No. 1 basswood honey, 550 lbs., at 7c, and 800 lbs. of honey-dew honey, at 5c. No charge for package.

H. O. McELHANY, Cedar Rapids, Iowa.

FOR SALE.—9000 lbs. of honey, in scant 1-lb. sections, crates holding 12 sections; will take 13c for white clover, and 11c per lb. for dark, f. o. b. here.

JOHN HANDEL, Savanna, Ill.

FOR SALE.—About 1000 lbs. of white clover and basswood each, of extracted honey; will deliver on railroad, in 60-lb. cans, for 8c per lb. I have also about 1500 lbs. of white comb honey in 1-lb. sections; will take 12c per lb., delivered on track.

W. R. HASLETT, St. Anthony, Iowa.

FOR SALE.—1000 lbs. extracted white-clover honey, at 8c per lb. This honey is in 60-lb. tin screw-cap cans; is well ripened and heavy. Will sell part or all, and deliver at depot here, at the above price.

R. B. LEAHY & CO., Higginsville, Mo.

FOR SALE.—6000 lbs. honey, 5000 white and 1000 dark. White honey at 7c per lb., f. o. b. here in barrels of 540 and 550 lbs. each; in tin cans of 60 lbs. each, 2 cans boxed together, at 7½c per lb. Dark honey at 6c. Shipped same as above.

ROBT. QUINN, Shellsburg, Iowa.

FOR SALE.—Quite a quantity of white clover and basswood honey, put up in 60-lb. square cans. Will take \$4.75 per can at my place. Correspondence solicited.

17-18d H. L. ROUSE, Republic, Iowa.

FOR SALE.—I have a quantity of choice clover honey in scant 1-lb. sections, and 12-lb. cases, at 15c per lb. (100 lbs. or more). Also 60-lb. screw-cap cans of extracted clover honey at \$4.90 per can; 2 cans in 1 box, \$9.60. Safe arrival guaranteed by freight.

OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.

17tfdb

FOR SALE.—10,000 lbs. of choice white-clover honey, in first-quality 1-lb. sections, 24 and 48 lb. cases, delivered free on board cars at Dixon, at 13 cts. per lb. If you want 1000 lbs. or more, write for special prices.

17-18d EZRA BAER, Dixon, Ill.

FOR SALE.—25,000 lbs. choice extracted white-clover honey, in barrels holding about 550 lbs. net, each. I put it up also in packages of any size desired, in either wood or tin. There is no finer honey than this in the market. Write me what you want, and I will give you prices.

EMIL J. BAXTER, Nauvoo, Hancock Co., Ill.

CHOICE ITALIAN QUEENS.

Tested, \$1.25 each; untested, June to Oct., 75 cts.; 3 for \$2.00. Annual price list of nuclei, bees by the pound, and bee-keepers' supplies, free.

11tfdb JNO. NEBEL & SON, High Hill, Mo.



Vol. XVII.

SEPT. 15, 1889.

No. 18.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.00; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

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OUT-APIARIES, NO. XV.

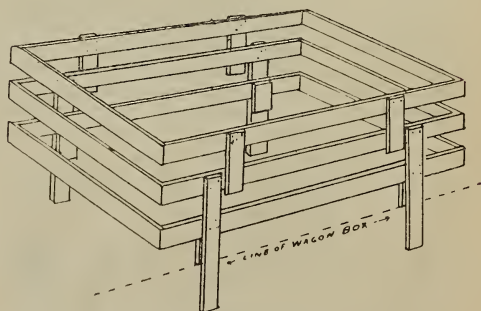
HAULING SECTIONS, ETC.

I AM sorry to say I know very little about what kind of conveyance others use in doing the necessary hauling to and from out-apiaries.

Probably each one uses just what he happens to have, and I should very much like to see a plan of a wagon specially gotten up for bee-keepers. As trips are made almost every day it is a matter of some consequence in what they are made. An easy-riding concern leaves you in better shape for work, and, for this reason, springs are important, even if they were not necessary for sections filled with foundation or honey. It seems to me it would be quite nice to have a cover over the whole wagon, so as to give shade from a hot sun, and protection from the rain. I should hardly like to start with a load of comb honey without some way of keeping it dry in case of a heavy shower. If a shower comes up while you are at work in the apiary it may be more convenient to run to shelter in a covered wagon than into a house or barn. Your wagon should be heavy enough to be sufficiently strong for the loads of honey you hope to haul, and it should be as light as possible, so you can make fast time on the road; for during the season, when every minute is precious, it makes a good bit of difference whether you go along at a smart trot or drag along at a walk.

If running for extracted honey, no preparation is needed for a bulky load; but if you run for comb honey, supers of sections will need more than an ordinary wagon-box to enable you to carry a good load. I say "supers of sections," for I presume your sections will be got ready during the winter or spring, and I use the word *super* in the most general way with its literal meaning, "over," to apply to any arrangement for holding surplus receptacles

placed *over* the brood-nest. It depends somewhat upon the kind of supers used, as to how you will carry them. If you discover no better way, you can increase the height of your wagon-box by using a modification of the rack that western farmers use for hauling hogs. Mine is made of common six-inch fence-boards; and to save weight, spaces are left between the boards, these spaces being small enough so there is no danger of a super coming through between the boards, and falling out of the load. Looking at the cut you will see that it is a very simple affair.



LIGHT TOP BOXES FOR HAULING SUPERS, ETC.

The two lower frames are held together by cleats nailed on the outside, these cleats continuing down over the outside of the wagon-box, thus holding the rack on. Stops nailed on the inside of the cleats keep the rack from fitting down close on the wagon-box, so that there is the same space between the lower frame and the wagon-box as there is between the two frames. The upper frame is a separate affair set on the lower rack, stops nailed on the inside of the cleats holding it up so as to make the space between it and the lower rack. The reason for hav-

ing the upper part of the rack separate, is that it is easier to put on the first part of the load with the upper rack off. After the lower rack is filled, then set on the upper one and fill it. When hauling the filled supers of honey home, there will be no need of the upper rack. The rack is short enough not to interfere with the wagon-seat.

While talking about hauling sections, I may as well speak of starters dropping out. If you use narrow starters you are not likely to have any trouble. Probably, however, you fill the section with foundation, in which case, unless very securely fastened, the starters may drop out in hauling. I used a Parker fastener, and turned the sections upside down when hauling. It was some trouble, but not so much as to have the starters fall out. Then I got a Clark fastener; and since using that, I haul the sections without inverting, and it is a rare thing for a starter to fall out. The Clark, however, must be used *correctly*, or I wouldn't have it. Simply press the foundation with a kicking motion of the feet, using no sliding motion of the foundation; and if the edge of your foundation is soft enough you will make a very secure job. C. C. MILLER.

Marengo, Ill.

Why, friend M., when you went around to the house-apiaries when I was there, you had a nice easy-riding buggy, with a top to it to keep off the sun. Was that only because I was along? I supposed it was the regular programme. I noticed, however, that you did not carry very many supplies in the buggy. We have quite a variety of top boxes for farm work, but none, perhaps, quite as light as yours. On our big lumber wagon, the front-board is permanently higher than the rest of the box; then to make the box higher we have some very thin light side-boards permanently attached to an end-board. This sits over the edge of the box, and catches fast to the front end-board. The idea of having a top-box in sections, so you can take off a part of it at a time, is a very good one. I suppose bee-keepers with out-apiaries will need something of an assortment of vehicles. Where you make a hurried trip alone by yourself, the common road cart, I should think, would be very nice, for you can make great speed without fatiguing the horse. Next would be a buggy or spring wagon, that would carry, say, 1000 lbs.; but when honey, hives, or bees are to be moved, weighing several tons, then I should think that two horses with a big stout wagon would be the best economy; and perhaps it would pay to have springs. By slow driving, however, one can get along without them. The number of out-apiaries, and the amount of business one does, would probably have to decide somewhat in regard to vehicles, and the number of horses also, for that matter.

NON-SWARMERS.

G. M. DOOLITTLE PROPOSES A PLAN.

BY page 631 of GLEANINGS for the present year, I see that Dr. Miller is still desirous of knowing how to keep bees from swarming, and quotes "Doolittle" quite largely in his article on that page. Doctor, please accept thanks for kind words found on the page above

quoted; and now I wish to lead you and the readers of GLEANINGS out in a new direction along this line of non-swarming, for Doolittle has been experimenting a little more the past summer on this vexatious question—vexatious to those who have all the bees they care for. Why I wish to give my experiment at this time is, so that you can prepare a hive or two the present winter to try the plan, and then with me, next summer, help perfect it to a greater extent than I have been able to do with all my cares. We have all heard of non-swarming hives during the past, yet none of these ever proved capable of doing what their inventors claimed for them, for which reason no one has any faith in a non-swarming hive. Well, I do not claim a non-swarming hive as any part of my plan, but I do claim that hive *preparation* and *manipulation* may yet be made the very item which is to do away with swarming, only as the owner has a desire for swarms. Now, after reading what is to follow, I want every reader of GLEANINGS to set his or her mind to work to see how they can improve on what I have done, hoping that each one may take a different line of thought from mine, or from any other person, and next season work out what they think, when, according to my belief, some of us will have a sure way of keeping all colonies from swarming, even if the plan I tried this year does not work as satisfactorily another year as it has this. What I did was as follows:

Last winter I cut three hives in two, so as to make two half-depth hives of each. I now made half-depth frames to fit these hives, which gave me a frame 5 inches deep and 10½ inches long, inside measure. That your frames should be like mine is not at all important. To cut your hive through the center the up-and-down way, and make the frames to fit the hive, is all that is necessary to try the plan. I made the bee-space at the top of each part, but I do not know but it would work equally well with this space at the bottom. To get the bee-space at the bottom, I nailed ⅝ strips on the bottom-boards, for the hives to rest upon. When spring arrived I transferred colonies into these hives, using only one part of the hive at first till the bees became strong enough to want the whole hive, when the other half was put underneath that part which the bees had occupied till this time. In other words, these half depth hives were tiered up as soon as they became strong enough to work to advantage in both parts. For this purpose I used the standard Gallup hive, rather than the hive holding only nine frames, which I use the most largely in my apiary, for my object was to get the largest force of bees possible at or just before the time of swarming; and by using the standard Gallup hive I could use 26 half depth frames, in both parts, when all were in the hive.

A little before swarming time, say a week, and as soon as honey began to come in so that the bees were building little bits of new comb, the part of the hive having the most sealed brood in it, or, in other words, that part having the least unsealed brood in, was raised off the other part, being sure that the queen was in the lower part, a queen-excluding honey-board put on, and on top of this a case of sections, while on top of the sections was placed the upper half of the hive which had been taken off. This was done to start the bees in the sections at once, on a plan somewhat similar to D. A. Jones's idea of putting the sections in the middle

of the brood-nest in an ordinary hive. They were now left till the brood in the raised part of the hive was mostly sealed over, when this part was set on a separate stand, after shaking a part of the bees out of it, if it was thought that they would have more bees than would be needed to take care of the brood after the old bees had returned to the old stand; then a queen-cell was given them, as I desired increase this season. If I had not so desired, this part of the plan would be left off, putting both parts above the sections, as about to be described.

Having the bees all in one part of the hive and in the sections, the next thing I did was to bring another half-hive, and, after taking the colony from the stand, this half-hive was set in place of that set off. This half-hive contained frames having starters only in them, said starters being about $\frac{1}{2}$ inch of foundation the whole length of the under side to the top-bar of the frame. The sections and honey-board were now removed from where they were, to the top of this new hive, and the passages down into the sections were closed by putting a sheet of enameled cloth over the top of the whole. The half-hive having the bees and queen was now opened, the queen found, and set out of the hive, when about two-thirds of the bees were shaken in front of the new part; and, lastly, the queen was placed with these shaken-off bees so she would be in the lower part of the hive where new comb was to be built. The part containing the brood and bees which were left to protect it was now set on top of the sections, over the enameled cloth, and the hive closed. These hives were worked inside of the shell of a chaff hive, the chaff being removed. In a day or two, an entrance was opened, which had been previously prepared, at the bottom of each part to the hives, so that the bees in the upper hive had to run down the sides of the section case and lower hive when they wished to get out, going in at the bottom of the lower hive, and out at the entrance. After having their playspell they would stay in the lower hive and in the sections, so that, when all had hatched, the upper set of combs was free from both honey and bees, when they were taken off and stored away for another season. Young bees enough seemed to remain to hatch the brood, while they went down into the lower hive just right to keep the colony at its strongest point all the while storing honey. The sections were tiered up as needed, or removed, and the bees seemed to think that they had swarmed, or at least they appeared to so think, after they were shaken into the empty part below. If an empty shell is not used, I would leave one corner of the enameled cloth turned back a little for the bees to pass through the sections down below; but in this case probably the bees might store a little honey in the empty combs after the brood had hatched. This has worked well this season, a season when not many swarms have issued, and I believe it will work in any season, giving us no swarms and lots of honey. I have time only to briefly outline it, but trust it will be sufficiently plain so that all can understand what the plan is, and help to perfect it still further.

G. M. DOOLITTLE.

Borodino, N. Y., Sept. 3, 1889.

I should expect the above plan to work, unless the bees had gotten the swarming mania before it was started. I am afraid, in such a case, they would swarm in spite of us. The objections to the plan are, that it

is a little complicated, and fully as much work, if I understand it correctly, as making an artificial swarm. Would not the final result be something like the plan so often given, of hiving the new swarm, and setting it on top of an old one, then in a few days destroying the queen-cells below and shaking the bees and queen in front of the lower one? In the above case the bees would probably conclude that they had swarmed, and therefore give it up until circumstances or the honey-yield should get them into condition to swarm again.

ARTIFICIAL INCREASE VERSUS BUYING BEES.

HENRY LARGE'S EXPERIENCE REVIEWED.

IF no one else has criticised H. Large's experiment, page 618, Aug. 1, permit me to say, while it is worthy of notice as to the amount of increase possible, and also the amount of sugar necessary to expend to obtain that result, the balance-sheet itself is incomplete, and, to beginners, misleading. From the dates given in the article, I beg to submit an approximate balance-sheet, leaving out the question of time and labor, which, for the five months, could not have been obtained for less than \$50. And another point is not made quite clear, whether they were full colonies sold, or only three-frame nuclei—see page 618, right-hand column, 4th and 5th line. If the latter, then bee-keeping might be profitable.

DR.		CR.	
1 stock on hand	\$ 6 00	22 stocks at \$5.00	\$110 00
44 hives at \$1.20	52 80	5 stocks at \$6.00	30 00
20 queens at \$1.00	20 00	18 stocks at \$5.00	90 00
Sugar	70 00	Sugar	2 00
400 sheets of foundation,			
say 50 lbs. at 42.	21 00		
To balance	62 20		
	\$232 00		\$232 00

You will see that I beg to differ with you in charging the 20 queens. They should be charged, even if Mr. Large had them given to him; and hives also have to be charged, and also foundation, as per his letter.

Now, is the game worth the candle? I can buy colonies in February and March right here, and I have no doubt most bee-keepers can elsewhere, at from \$2.00 to \$3.00 per colony, and the cost of building up friend Large's 45 was \$1.75 each, exclusive of labor, hives, and foundation.

H. FITZ HART.

Avery, La., Aug. 25, 1889.

NEW METHODS OF QUEEN-REARING.

ZINC-EXCLUDERS, ETC.

AN interesting question now before our leading apiarists is, Can young queens be fertilized from a hive where there is a laying queen in the brood-chamber, the queens being excluded from the brood-chamber and each other, and given separate entrances?

This matter has been considered in the *American Bee Journal*, see page 26, Vol. XXV., where a negative view is taken. That view is still held. While it may occasionally occur, as in a great honey-flow, or where there is a failing queen, still it is an exception to a great law in the nature of the honey-bee; and that law is, that, so long as a vigorous queen occupies the brood-chamber, she reigns practically supreme as regards all rivals. But if for any cause she deserts the brood-chamber for

another and remote part of the hive, and begins laying; or if she leads out a swarm, the conditions for queen-rearing are essentially changed. The bees of that brood-chamber will then start queen-cells, and, with proper mechanism, the bee-keeper may get every one of them hatched, fertilized, and laying, all in the same hive; at the same time, the bees have access to all of the queens.

Thus we may rear and get young queens fertilized from a hive while the mother-queen is actively depositing eggs in the same hive; but it is imperative that her operations be transferred to a part of the hive remote from the brood-chamber.

In storifying a lot of brood-chambers containing combs of honey upon a colony (without excluders to prevent the queens going up), I found shortly after that she had gone up to the third story, and the bees below in the first story had started queen-cells. The queen was laying vigorously, and her attending bees were flying from the first story and the only entrance.

This liability of the queen to leave the brood-nest will account for the probable fact that colonies of bees in caverns and other places in a wild state have many laying queens, although all of the bees are seen to issue from a common entrance. In no other way can we account for the large numbers of bees seen to fly from some of these wild colonies. In the instance above noted, of the queen deserting the brood-nest, I put her back in the first story; put on an excluder, and then the seven other brood-chambers I had on this hive. The bees then balled and killed the mother-queen, and raised a queen above and below the excluder.

In two other cases, where I had put swarms containing the mother-queen above the sections, the bees reared young queens below while the mother was laying above. So in this case, where the mother-queen had gone up to the third story, if I had left her there she would not have been disturbed, and there would have been two laying queens in a short time. But I have yet to record a single instance among many cases I have had in the last three years, of a young queen becoming fertilized from an upper story above an excluder, where there was a laying queen in the brood-chamber.

One of the many plans of using the new queen-rearing chamber is to take the old queen from a hive and put her in an upper story, above an excluder, or, wait till she leads a swarm, and hive in the usual manner; then place all above the excluder. Before the queen-cells are ready to hatch, set the combs over the new chambers, so that there will be one cell to each of the compartments, and all of the young queens that hatch will become fertilized, and begin laying in due time.

The many and highly successful uses to which queen-excluding zinc may be put, hails the advent of great changes in our methods and fixtures. My prediction on page 88 of GLEANINGS, Vol. XVI., see the three closing paragraphs, will speedily come to pass, and other much-needed changes with it, not the least of which will be the sacrifice of the present largely used Langstroth brood-frame for one of a smaller size, or one about 7 x 17 inches. The new conditions and requirements brought about will compel these changes, which are destined to place bee-keeping upon a more successful and profitable basis. It will be soon made to appear, if it is not already apparent, that bee-keeping, as a pursuit apart from other business, is not a

profitable one (barring a few exceptions in favored localities), with our old methods and fixtures for handling bees. The new system, with its larger returns and financial success, will work its own way to popular favor.

G. L. TINKER.

New Philadelphia, O., July 27, 1889.

I proved by some expensive experiments years ago that queens can be hatched and fertilized in a colony having a laying queen; but said colony required a degree of watching and manipulation that made it out of the question to raise queens at a profit. If we could develop a strain of bees where young queens would be raised continually, while their mother kept on laying eggs, then we should have what we want.

THE HONEY CROP OF VENTURA CO., CAL., AND VICINITY.

FRIEND MERCER GIVES US THE FIGURES.

IF your correspondent from Los Angeles Co. still thinks we shall have a fair crop of honey, I think he had better dust around among the bee-keepers and learn what is going on; for there is less than one-fourth of a crop in all of the southern part of the State. The crop has mostly been sold for about 6 cts. per lb. The *comb* honey crop was nearly an entire failure. There was only about 3 tons produced in Ventura Co.

NAMES AND POSTOFFICE ADDRESS BEE-KEEPERS.	Honey, Tons.	No. of Hives in Spring.	Increase.
T. Barrows, Nordhoff.....	1 1/2	75	
J. E. Stuart, Nordhoff.....	5	15	
S. C. Gridley, Nordhoff.....	5	280	
A. Vancousan, Nordhoff.....	1 1/2	70	
George Bey, Nordhoff.....	4 1/2	160	
J. H. Ireland, Nordhoff.....	3 1/2	240	
J. W. Denison, Nordhoff.....	2	80	
J. H. Cooper, Nordhoff.....	2	67	
P. W. Sopher, Nordhoff.....	2	90	
J. J. Rapp, Ventura.....	10 1/2	245	
Robert Lyons, Ventura.....	2	65	
S. G. Wills, Ventura.....	2	270	
Mr. Sheldon, Ventura.....	4 1/2	180	
R. Wilkin, Ventura.....	2	275	80
M. H. Mendelson, Ventura.....	5	225	90
George Reynolds, Ventura.....	3	200	
Lewis Walker, Ventura.....	6 1/2	300	
J. McFarlan, Ventura.....	1	50	
John Fox, Ventura.....	1	400	
L. E. Mercer & Sons, Ventura.....	16	1100	250
J. M. Brooks, Ventura.....	4 1/2	104	
Mr. Quesnel, Ventura.....	10	300	50
C. Healey, Ventura.....	3	180	50
Mr. Twining, Ventura.....	3 1/2	80	
Mr. Lowery, Santa Barbara.....	5	400	
Mrs. W. D. Alexander, Santa Paula.....	7 1/2	325	
Mr. Basset, Santa Paula.....	1	75	
J. Luger, Santa Paula.....	1	100	
C. E. Hoar, Simi.....	3	130	
Woods Earley, Simi.....	6	500	
F. Carmichael, Simi.....	1	450	
W. G. Richardson, Simi.....	2	1,300	
C. M. Drake, Springville.....	4	100	
S. Stewart, Hueneme.....	12	350	40
S. Fox, Hueneme.....	5	160	
S. Mahan, Hueneme.....	7	170	
J. M. Stewart, Hueneme.....	2	150	
P. Oliver, Hueneme.....	2	170	
M. F. Butts, Hueneme.....	2 1/2	150	
Savers & Davenport, Hueneme.....	1 1/2	160	
J. F. McIntyre, Fillmore.....	10 1/2	420	150
F. Jepson, Fillmore.....	2	75	
Thos. Arundel, Fillmore.....	14	600	65
S. Kinney, Fillmore.....	2 1/2	150	
Josiah Keene, Fillmore.....	2	60	
R. Strathern, Fillmore.....	7 1/2	500	
M. Encinos, Piru City.....	2	80	
Robert Dunn, Piru City.....	2 1/2	80	
Mr. Moffit, Piru City.....	6	210	
J. A. Canaway, Piru City.....	4	250	
W. Whittaker, Piru City.....	3 1/2	300	
T. Whittaker, Piru City.....	3	125	
G. Stockton, Piru City.....	2 1/2	200	
H. D. Dutton, Piru City.....	2 1/2	150	
John Huser, Piru City.....	2	111	
B. Reasoner, Piru City.....	1	100	
O. P. Reasoner, Piru City.....	3 1/2	400	
W. & G. Lechler, Piru City.....	2	275	

Sau Buena Ventura, Cal.

L. E. MERCER.

THE REESE BEE-ESCAPE.

AN EXCEEDINGLY IMPORTANT INVENTION.

IN my work in the apiary this summer there is nothing I have used with greater satisfaction than the Reese bee-escape. This was illustrated in GLEANINGS somewhat over a year ago, I believe, but since then so little has been said of it that it does not seem to have come into general use. With me it has proved not only a labor-saver, but has largely done away with one of the most unpleasant operations of the apiary. The usual way of ridding extracting combs of bees is to remove the combs separately, shake the bees off as much as possible, and then brush off those remaining.

With many bee-keepers, comb honey is handled in about the same way, except that things are often made worse by handling each section separately. This shaking and brushing bees from the combs is a tedious, wearisome, dauby, and exasperating task. The nice comb honey is uncapped by the bees while the operation is going on; irritated bees take revenge on the operator, and often robbing is the natural result of the exposure of honey. All supers, whether for comb or extracted honey, should be of such construction and size as to be readily handled as a whole. Any form of super that must be taken to pieces to remove the honey from the hive is defective. With properly constructed supers the removal of honey by means of the bee-escape is an easy matter. The finished super is removed, a bee-escape placed on the hive, and the super and cover replaced, alarming the bees scarcely at all, requiring the use of but little smoke, and allowing almost no chance for robbers. In a short time the bees will have quietly passed below, and the honey may be removed. Usually I put the bee-escapes on in the forenoon, and remove the honey late in the afternoon, or put them on in the evening, and leave them over night. Very often less time will answer, but usually it is well to allow six or eight hours for the bees to get out. When sufficient time can be allowed they are just the thing for an out-apiary.

I use single cones, making them two inches in diameter, and the same in depth. A form for making them is easily made from wood. Sometimes the bees cluster on the cones in such numbers that some find their way back; but this does not often happen. To prevent the possibility of leaving the escape on so long that combs will be built in it, it should be painted some color strongly contrasting with that of the hive.

Those who use hives with a double brood-chamber can use the bee-escape to very good advantage in preparing their bees for winter. Wait until all brood has hatched, then remove the lower story, and run the bees out of it through a bee-escape. The upper story contains most of the honey, the lower story nearly all of the pollen, and your bees are thus contracted for winter in the best possible shape, and without handling a frame, and with very little contact with the bees at a season when manipulation is particularly difficult.

Dayton, Ill., Aug. 27, 1889.

J. A. GREEN.

You certainly have succeeded in making the bee-escape a great labor-saving implement; and as I read over what you have to say, I felt ashamed to think that this had not been brought out so prominently before.

As an illustration: In our experiments with the house-apiary we came to a point where we decided that, if some method besides shaking and brushing could be devised to get the bees off the combs and sections, it would be a success. But we decided then that it could not be done; and unless you have tested the matter thoroughly, I am inclined to think that the bees will, many times, stick to their combs day after day (especially if the combs contain a little brood). The only way in which we succeeded in getting them to leave entirely has been to wait for cool weather, and sometimes even then they would stick to the supers until they became too stiff to move. Your idea of having the escape painted some different color from the body of the hive is a bright thought. A great many times, very annoying omissions can be prevented by simply having tools or implements painted with contrasting colors. You know we have our covers for sap-pails red on one side and white on the other, so as to tell when a pail has been filled. You will remember that I mentioned that Dr. Miller piled his honey up in tall piles, in order to get most of the bees to leave of their own accord before he came to finally getting them out.

AMONG THE BEE-KEEPERS OF VERMONT.

POINTS OF THE JOURNEY SUMMED UP.

AFTER a Sunday in Rutland, spent both pleasantly and profitably, we went to Bradford, where lives Mr. Hilos Davis, a bee-keeper and hive manufacturer. This place is east of the picturesque Green Mountains, between White River Junction and Wells River, and near the New Hampshire and Vermont line. The location is not equal to the region across the mountain, for honey production. As Mr. Davis was obliged to leave his business on account of failing health, he came here in 1878, and began bee-keeping. He commenced in the spring, with 278 colonies, and then had 310 in three yards three or four miles apart. In the home yard, situated on quite a steep hillside, were 96 colonies. These are cared for by a young lady member of his family, Miss Lucy Crehose, who is enthusiastic in the work. At the factory, three miles away, where Mr. Davis owns a nice little water-power, are 150 colonies which he looks after. Mr. Davis was a designer and inventor, and was with one firm in North Andover, Mass., in this capacity ten years. His factory here was burned a few years ago, and he lost not only much stock and valuable machinery, but a large number of the finest tools which can not be replaced, having been made and collected during his former occupation. The present factory is well fitted with improved machinery, adapted to making hives, sections, crates, etc. He is a skilled workman in wood as well as iron, and the goods turned out are well and accurately made. He has made a number of different hives, and experimented on and invented various fixtures. His present hive is very ingenious, with many good points; but in our opinion it has so many complicated and accurately fitted parts that the labor required to manipulate it would be a great objection in a large apiary. He

uses eight Langstroth hanging frames, which are held at fixed distances by projecting pieces at each end of the brood-chamber. The surplus case consists of section-holders with a double wood separator fastened on one side. These are held together by a wooden frame; the side or end boards are wedge-shaped, and the frame is crowded up tightly about them. The double separator is his invention, and has become favorably known to quite a number of bee keepers. It is claimed for it, that, as bees can go through these passages they do not walk over the combs as much, and it saves their being stained, and also gives freest access to the cases above. The same crate is used as a feeder, shallow troughs taking the place of the rows of sections, while the bees enter through the passages between these separators. In winter, the brood-chamber is turned on end, making the shallow frames into deep ones. An outer case, similar to Manum's, is used, and packing is placed beneath as well as around. The fresh air passes up between the case and an inner partition, and enters the brood-chamber near the top, when, he claims, it falls to the bottom and forces out the foul air through the porous cloth at the top, and all condensation of moisture is prevented; there is also no draft on the cluster.

He has invented and is testing an ingenious automatic swarming arrangement. It consists of a brood-chamber, containing combs with wire cloth on one side. It is set on end on a shelf or bracket on the front of the hive. A passage leads to it from the entrance, and the outer entrance is covered with queen-excluding zinc. When the swarm attempts to leave, the queen can not go through the zinc, and either finds her way to the catcher, or returns to the hive. If the apiarist is on hand as soon as they begin to issue, he shuts the lower entrance entirely; and the swarm, led by the light, pours up into the catcher. When clustered, the brood-chambers are changed, the new one put inside the hive, and the cases of sections from the old one are given them, and the work goes on. The old swarm is left then until united or given a permanent stand. His experience with queen-excluding zinc is, that the Jones and Falconer zinc does not hold the queen every time. Last season the third apiary was in charge of Mr. Davis' daughter, a bright child of eleven years. She managed every thing, with the help of a man near by, who would lift clamps of honey, or do any heavy work when called upon. In going to the yard she walked a quarter of a mile to the station, took the train to the next station, walked two miles to the apiary, and when the day was over she walked the whole distance home. Sometimes she had a chance to ride home with her father, who came to see how she was getting along. The past two seasons have been very poor with him, and Mr. Davis is "living in hopes" of something better soon. In 1885 his best hive gave him 197 lbs. of comb honey, and did not swarm. When he has a good crop he takes a lot by freight to the different cities and sells it himself. Sometimes he takes a wagonload to the nearest large places.

After a short stay here, owing to our limited time, we took leave of the family in which was such a promising young bee-mistress, and were driven to the station by Mr. Davis, when, after thanking him for the pains he had taken for us, we took the train and were safely delivered in Pawtucket that evening.

In summing up our trip we have learned so much that is both new and valuable to us that we are at a loss to mention the most important helps; but we would say we admired the tireless energy and practical ability possessed by Mr. Manum, as shown in the simplicity and completeness of the hive used, and in the systematic arrangement and management of his extensive apiaries.

At Mr. Crane's we saw the section-crate that won us (also used by Holmes and Larrabee and others), and noticed that he was able to get along with less help during the season than the others who allowed their bees to swarm; and we decided to try removing queens from part of our colonies the coming season. Manum and Crane fasten a hook to the bellows of their smokers, which is hooked over the edge of the hive and holds it convenient for use, or so that smoke from it may blow across the open hive.

At Mrs. Wolcott's was the best honey and work shop for 150 colonies we have ever seen, and the most attractive cases of comb honey ready for market, the credit for which is due to Mr. Holmes, we believe. At Mr. Holmes' home yard was the finest finished as well as the cleanest prepared sections of comb honey we have ever seen. His bees are blacks, with a few hybrids.

All the parties visited used the four-piece dovetailed section, made of white poplar, glued at the corners when put together. This is what we have used for several years, and we should like to see any thing stronger, whiter, or squarer. We have driven them together with a block of wood, after touching the corners in white glue, and then put them in the angle of a carpenter's square to leave them true. There they use various machines for putting them together. Mr. Manum used to make and sell a lightning gluer, which was attached to a horse, similar to a harness-maker's, but it is now used somewhat changed, and is attached to his work-bench. Nearly all in Addison County have made something on the same principle, and "which does the work."

Mr. Isham, one of Mr. Manum's apiarists, has an attachment for his machine, with which foundation is meshed into sections with ease and incredible rapidity. These machines we think should be more generally used.

Mr. Forbes picked up a wagon-spring, cut off part of one end, fastened a square piece to this thick end, and bolted the thin end to a block fastened to his bench, then attached a treadle to pull it down with, put in a stop beneath, to prevent it coming too far, and I don't see but he has the simplest and cheapest arrangement of all.

Larrabee, Holmes, Hall, Forbes, and others, have the Barnes improved foot-power saw, and make all their hives, crates, and shipping-cases with it. Outdoor wintering is practiced almost exclusively in the region, though Mr. Crane has lately started the practice of wintering in the cellar.

If any one should have secured any help from ideas given in these articles, we are glad; but these bee-keepers deserve the credit of it, and we would advise all who can to take the trip themselves, for very likely they will be better able than we were to improve the opportunity. SAMUEL CUSHMAN.

Pawtucket, R. I.

Friend C., we are glad to get reports from any bee-keeper who manages to have his sons and daughters assist him; and your

account of the way in which a daughter eleven years old managed an apiary is really wonderful. I presume that, of course, friend Davis will watch carefully to see that the child is not overtaxed, either mentally or physically. She is just the age of our daughter Caddie; and while we were talking it over at the breakfast-table, Caddie thought it was a pretty big undertaking. As a rule, where children do show special gifts in such matters, they ought to be allowed to have vacations quite often, and of pretty good length. Any little girl who loves her father, and who also loves bees, can oftentimes do surprising things in this line. It reminds us of the story of Katie Grimm, and the wonderful feats she performed in the way of extracting honey in one of her father's out-apiaries. Some of the younger ones might very naturally want to know how big pay Miss Davis received for her share of the work. The accounts of your visits have been very interesting indeed.

CUBA AND ITS HONEY RESOURCES.

THE NATIVE CUBAN APIARIES AND HIVES.

A NATIVE Cuban apiary usually consists of from 50 to several hundred log gums, each 10 to 18 inches in diameter, and 5 to 6 feet long, lying flat on the ground or on poles, in rows about 2 feet apart, and open at both ends, from which the combs often protrude a foot or more. The shell of these palm logs being very thin, dry, and free of limbs or knots, is easily and quickly split open in transferring. The tools used in this operation consist of a smoker, long-handled ax, whisk-broom, and a long iron rod with a handle at one end, and flattened at the other into a broad gouge, sharp and circular in shape, to conform to the inside surface of the gums. Two blows with the ax, directed between two long rows of combs, usually suffice to divide the hive into halves. We now remove with knives all the large and heavy combs of honey and brood, and, after jarring off the bees, finish up with the long gouge, leaving the shell as smooth and clean as though the bees had never occupied it. When the day's transferring is done, all the brood-combs are gathered into one place at the entrance to the hive of a strong stock; here it is carefully arranged into a long pile, and covered with palm bark and coffee-sacks. We now close the other end of the strong stock, and thus compel the bees to pass through this pile of brood in leaving and returning to their hive. In a couple of weeks the brood is all hatched, and we have millions of bees to use when needed, besides plenty of old combs to turn into foundation, which, by the way, I prefer to any very old combs, no matter how straight and nice they may appear. In this manner we have, with an assistant, transferred an apiary of 86 gums into our hives in $4\frac{1}{2}$ days, which, when we consider that the gums will average in their contents twice as much as the old box hives of this country, must be regarded as rapid work. The honey-flows at this time of the year, January and February, are so plentiful and constant that no trouble is experienced from robbing.

THE TWO MAIN SOURCES OF HONEY.

While most of the trees, shrubs, and plants, bloom

profusely, and the larger part furnish honey, yet the apiarist in this part of the island relies for his large crop of surplus mainly on two sources—campana, or bellflower, and the campeachy (logwood). The former is a vine, much resembling our morning-glory, and blooms profusely from December till in February. It is considered a perfect pest by the Cuban farmer, as it grows almost everywhere, and is difficult to kill out. The latter is a beautiful wide-branching tree with a most peculiar body, often nearly square instead of round, like an ordinary tree. It blooms three times during the year; and each time, for the space of about two weeks, it affords large quantities of rich golden nectar, in quality and color much like the honey from the pumpkin-bloom. When in bloom the hum of the bees among its branches can be heard quite a distance, and reminds one of the basswood forests in this country, except the large tresses of flowers, which are yellow instead of white.

NO WINTER PROBLEM TO CONTENT WITH.

Here in the North the great problem of safely wintering and "springing" the bees occupies the thoughts of our apiarists, while in Cuba the problem is, "how to have our hives overflowing with bees, at the commencement of the great honey-flows," commencing in December. August, September, and a portion of October, are probably the worst months in the year for the Cuban bee-keeper. There are flowers in bloom, but they do not seem to afford much honey. The Italian queens diminish wonderfully in their laying capacity, and the blacks to a less extent. To solve as nearly as possible this problem we use hybrid queens; and as our hives are large we place a close-fitting division-board in the center, and as good and prolific a queen as we can find in each part, adjusting the entrance so the bees will not mingle on the alighting-board. We now give them a very little *thin* feed each evening, continuing till near November, when we remove one queen, take out the division-boards, and place all the brood in the lower stories of the hives; and as honey is now coming in moderately, feeding is discontinued; and by December we have, say, on an average, from 60,000 to 80,000 bees to each hive, and this means an average, at least, of from 350 to 500 lbs. of honey. I know of one large hive containing a Syrian queen, which gave an average of 600 lbs. of honey for three successive seasons. I will now give our method of wiring foundation.

ANOTHER PLAN OF WIRING FRAMES.

Punch two holes in the *side-bars* of the frame, equally distant from the top and bottom. Place a small tack on the outside of one side-bar, near each hole. Now, facing your work-bench, with frame in left hand and wire reel fastened to the bench on your right, insert the wire in the upper hole, across the frame, parallel with the top-bar, through the upper hole on the left side, then back through the lower holes. Now securely fasten the wire to the upper tack, and pull the lower wire very tight, and fasten to the lower tack; clip them off and drive home the tacks, and you are ready to insert the foundation, which should have a play of not over $\frac{1}{16}$ inch from side to side. Tack a board on your bench, which fits the inside of your frame, and of half its thickness. Place the sheet of foundation on this board and bring the frame down over it so that the wires rest tightly against the foundation. Now with a small awl, with groove in the point to ride the wires, imbed them in the foundation; and if the

work is properly done, no sagging or breaking of combs will occur in extracting. I have thoroughly tested this method, and believe it superior to any other; besides, it is inexpensive, simple, and speedy.

Of course, there are some "drawbacks" to Americans carrying on business in Cuba, but they are not so serious as many suppose, and these we may notice in some future number.

A. J. KING.

New York, Aug., 1889.

Well, I declare, old friend, you have really worked up almost a system of bee culture specially for Cuba. Your plan of placing all the brood in front of a strong colony, so as to have a regular storehouse of young bees from which to draw them, by the pint, quart, or bushel, is a new idea, at least to me. By this means we get all the brood, and get rid of transferring old combs into frames that would be only a detriment. I think if I should do any transferring I would adopt a similar plan; viz., save all the bees, but melt up every square inch of comb from the old hive. Your plan of wiring frames, I presume, applies particularly to the American frame, about a foot square. For this frame it will no doubt answer nicely. With the Langstroth frames, two diagonal wires work very well in a similar way. We should be very glad indeed to receive further reports.

COAL OIL AND SULPHUR NO REMEDY FOR FOUL BROOD.

SOMETHING FROM OUR OLD FRIEND JOHN G. COREY, OF SMOKER FAME.

IN a late issue of GLEANINGS, I see that Bro. Mercer, our foul-brood inspector, has gone back ten years and is now actually going over the same ground that some of our old Ventura County bee-keepers did during our foul-brood panic, commencing in 1877.

I am sorry this old coal-oil and sulphur remedy has been revived, and doubly so because it re-appeared in this county, where we, like a band of brothers, united in reading up on the subject, and finally united, and, I can safely say, stamped it out of existence among the progressive bee-keepers of this county. 'Tis true, we had *bee-owners* who would experiment with coal-oil and sulphur, the same as the celebrated African "medico," who prescribed "rosam and shot" for a broken leg, and foul brood stuck to them like a brother as long as they owned a single colony of bees. But our wide-awake bee-keepers accepted the well-established theory that the disease existed in the *honey*; and that, as long as there was a drop of that diseased honey in a hive, foul brood was liable to re-appear whenever that drop of honey was used to feed brood; and as Bro. Mercer is our inspector, we feel a pride in having him both practice and teach the true and accepted theory, namely, that foul brood is a fungoid disease, and exists in the honey; that the diseased, dead, and putrid brood is only the effect; that to cure the disease we must remove the cause. Still, I am willing to hear Bro. Mercer defend his coal-oil and sulphur remedy, but I can not feel otherwise than that any such nonsense is misleading, and eventually works a great wrong. When beginners in bee culture read the discussions on this disease, and examine the best authorities

on the subject, and afterward find a large bee-keeper advocating so simple a remedy as Bro. Mercer proposes, he is liable to say, "What a set of old fools those old bee-keepers were, to make so much ado about such a trivial affair as foul brood!"

I can tell Bros. Mercer and McIntyre how to make a queen-excluder for one-third of a cent, if it would not be considered too cheap, and be an injury to the perforated-zinc trade.

JNO. G. COREY.

Santa Paula, Cal., Aug. 13, 1889.

Friend Corey marked the following "private;" but as it contains the good news that he is about to enter into our ranks again, he will excuse us for using it.

P. S.—Bees came and entered some of my old cast-away hives on my lot. I have cared for them, and imported some queens, and am preparing to go back into bee-keeping this winter. I have been lonesome since I sold my apiaries, and I can't live without bees.

J. G. C.

Perhaps I should explain to our readers, that friend Corey is the one who first gave us the idea of the cold-blast smoker. I had quite a visit with him while in California, and he explained to me that, as his life has been mostly spent with machinery, making him necessarily conversant with the principles of steam, air, and liquids, it was no very great invention for him to suggest making the smoker on the injector principle—at least he so states it. But we can thank him none the less. He is a man well informed, and well calculated to detect and throw out any so-called false science. If he uses a remedy or any thing at all for foul brood, it would have to have the stamp of common sense on it before it could pass him. I entirely agree with him in regard to the coal oil and sulphur—that is, I can not see by any process of reasoning how it should be an antidote against foul brood.

WHAT IS AN AVERAGE CROP OF HONEY, COMB AND EXTRACTED?

E. FRANCE BRINGS UP A PERTINENT QUESTION.

IN answers to the third question in the statistical report in Aug. 15th GLEANINGS, for the present year, there appears to be a big difference in opinion as to the amount of a full crop of honey. We base our calculations on a full crop of extracted honey as 100 lbs. per colony, spring count; and for comb honey, 50 lbs. per colony. This year we got about 50 lbs. average, which we call half a crop. My report for this vicinity was 75 per cent; but my neighbors got more honey per colony than I did. Mr. Freeborn, of Ithaca, Wis., gives 100 per cent; his crop 32,000 lbs. from 300 colonies, an average of 107 lbs. per colony, besides 200 lbs. of comb honey. Mr. F. McNay, of Mauston, Wis., gives in his report 100 per cent; his crop 20,000 lbs. from 350 colonies. His average was a trifle over 57 lbs.; but still he reports 100 per cent. See the difference in opinion about per cent. McNay must think he got a full crop, while Freeborn doesn't appear to think he got over a full crop. Mr. J. L. Clarke, of Florida, reports nearly 5000 lbs. from 68 colonies, an average per colony of 73½ lbs., and he reports 200 per cent. Mr. C. Dadant, of Illinois, reports 35,000 lbs. from 400 colonies, 87½ lbs.

average per colony, and he reports 150 per cent. Mr. James Heddon, of Michigan, reports 2000 lbs. of honey from 200 colonies, an average of 10 lbs. per colony, and he calls it 25 per cent. Mr. R. L. Taylor, of Michigan, reports 4000 lbs. of comb from 400 colonies, and he says 25 per cent. Mrs. L. Harrison reports 2000 lbs. from 75 colonies, an average per colony of 26 $\frac{2}{3}$ lbs., yet she says 100 per cent. Mr. W. P. W. Duke, of Alabama, reports 3000 lbs. of comb from 40 colonies, an average of 75 lbs. per colony, yet he says 200 per cent. Mr. Chas. F. Muth, of Ohio, reports 800 lbs. from 28 colonies. He says his per cent is perhaps 75, and his average is about 28 lbs.

Now, friends, it is amusing to look over the reports and note the difference in the per cent reported. The most of these that I have quoted are prominent bee-keepers and writers on bees and honey. But just see the difference of per cent quoted on the amount of honey taken. What does this "per cent" business amount to? If we had

them. Perhaps the reporter has done better than those about him, or the case may be just the reverse. I believe, however, that the parties you mention generally do a little better than others in their vicinity, for they are leading bee-men.

PRATT'S QUEEN-REARING APIARY.

CARNIOLANS, ETC.

THE engraving herewith shows the northeast corner of what is known as the "Pratt Bee-Farm," of Marlboro, Mass. This apiary is wholly made up of the Carniolan race of bees, and is run for queen-rearing exclusively. It is located in the center of a city of 13,500 population. A small brook is in the background. The large hives in the foreground are stock hives, of the Cary type. The first three or four rows contain imported queens, and they are constantly



PRATT'S QUEEN-REARING APIARY.

nothing but the per cent report for a guide, our conclusions as to the amount of honey taken would be as wide as the rate of per cent quoted. But fortunately we have the pounds of honey taken and the number of colonies, and that is valuable.

Now, friends, can we not settle on some amount of honey, both for extracted and comb, so that we all may know just what is meant by a full crop of honey? We often read about a crop, half a crop, one fourth crop, etc. Let us call a full crop of extracted, 100 lbs.; comb, 50 lbs.; then every pound of extracted is one per cent, and of comb honey two per cent. We ought to have a standard.

Platteville, Wis., Aug. 28, 1889.

E. FRANCE.

Many thanks, friend France, for calling us all to order in this matter. I would, however, suggest that possibly the friends, in mentioning the per cent, have in mind the general product in the vicinity around

drawn upon for brood to strengthen nuclei, etc., which keeps them from swarming.

Those hives just to the left of the operator contain the finest breeding queens procurable. These bees will submit to rougher usage without anger, and will endure the severest weather with less risk, than any other bees that we are familiar with.

In the distance, among the grass, are shown a few of the nuclei hives—one hundred in all.

These hives all take the Cary frame, with ten to the large and from three to five to the nuclei.

The operator is your humble servant. He is just opening an imported-stock hive, without the use of smoke, during a clover harvest.

During this season, 1889, not a single queen has been lost at mating time, out of the hundreds reared. This is on account of vigor of the young Carniolan queens, keeping all nursery hives a good distance apart, and allowing the grass to grow up

about them. All the breeding is done from very fine home-bred queens, and mated with the finest drones from tested imported stock. We are firm believers in breeding from the best drones as well as from the best queens.

E. L. PRATT.

Marlboro, Mass.

Perhaps our readers may not all recognize friend Pratt as the editor of the *Queen-Breeder's Journal*. The picture seems to indicate that his apiary is a very pleasant place, and one would hardly think, from the view of the shrubbery, that it is in a city of 13,500 inhabitants. The descriptive letter above sounds pretty strong for the Carniolans, as well as for the skill of the proprietor; but it may be well, perhaps, to bear in mind that friend Pratt is an enthusiast in the matter of queen-rearing. He has certainly gone beyond anything within the scope of our experience if he has raised hundreds of queens without losing one during mating time. As we are told that the *Queen-Breeder's Journal* has been recently sold to another bee-paper, we infer that the business of queen-rearing was too arduous and exacting to admit of conducting a periodical in regard to the subject at the same time.

JOTTINGS BY AMATEUR EXPERT.

THE TEMPER OF CARNIOLAN BEES.

IN a recent issue of GLEANINGS, Ernest remarked that a stock of Carniolan bees placed in the care of a Mr. Harrington were not more docile than Italians. I should like to say, that plenty of them are not so; but on the whole they are a far more amiable race, although they can sting if need be, and are good at defending their homes. They need very little smoke, and do not rush about on the tops of the frames during manipulation. They are very still if you handle them carefully, and they do not rush into balls, especially at the lower corners of the frames, as some bees do. On the other hand, they never seem to gorge so excessively as many bees, which makes it difficult to change them from one hive to another, or run them in at the entrance, as one sometimes wishes to when uniting or adding to a stock. But all this is running away from "temper."

The question I wish to broach is this: If I get a queen from a dealer who warrants her as from a quiet strain, why are her progeny more or less savage? I suggest, chiefly two reasons: 1. Because, probably, she has been reared from the egg by savage nurse bees; or, 2. After you get her you probably introduce her to a stock of very cross wretches, because you hope to improve their tempers. I believe there is a little in the first reason, but there is far more in the second. We know the effect of a foster mother on a child. True, children bred on goats' milk do not butt; and if on asses' milk they do not work their ears backward and forward when they talk, although they may do many characteristic things when they grow up; but many a weakly child from a weakly parent has grown into a finely developed adult through being brought up by a physically strong foster mother, and has inherited many of the physical and moral characteristics of the parents and family who has nurtured them in childhood, instead of those of its natural parent. I beg that lady's pardon, but I mention her name to draw

her out of her silence. What has Mrs. Chaddock to say to this? Well, if this is true of men, and how much more true of animals, why not bees, who have such control over the future of a bee through the quality of the milk given it when young? So much for theory. Now for a fact or two:

I have a friend who is a very enterprising bee-keeper; he is one of the first to get hold of every new race; he makes his bees pay him well; he has had every conceivable kind known; and the consequence is, he has an apiary full of hybrids, and, to use his own expression, they are all "naughty." He has had Carniolans, and from several dealers too; but even his Carniolans are the most savage I ever met with. He has introduced his queens to savage hybrid stocks to cure their tempers, but only to find the young Carniolans are only a shade "less naughty" than his young hybrids.

Another bee-keeper, who sells bees with Carniolan queens introduced, always finds the first batch of Carniolan brood is not nearly so amiable as those following later, and he confessed to me it has been a great drawback to him. On one occasion I lent an old tough-combed stock, in a straw skep, for manipulation at a bee-show, in a tent, and a very noted bee-keeper complained of their bad temper, killed the queen, and gave me a nice young queen from a very quiet race, and I was disappointed to find her progeny were not much improved on those of her predecessor in the way of stings, but that same old stock afterward got to be as quiet as any, and I took it to many shows, and it did not seem to make them as bad as the original bees were, although they had plenty of drumming and knocking about.

THE QUESTION OF THE YELLOW BANDS.

Some say they are not a pure race. Of this I am not able to speak with authority. I have had them, and seen them in other apiaries for the past nine years; and although I have seen others' bees breed yellow bands, mine have not, and this year I have tested the progeny of from 40 to 50 queens purely mated, and have had no yellow-band breeders. There are two things I have remarked; and that is that, while many of the queens are as yellow as Italians, others are very black; but it does not seem to affect the color and markings of the progeny; the second is more curious still; and that is, the presence of a few workers, say one in about 1000, with their abdomens a jet black, and so smooth that, at first sight, the rings are scarcely discernible. They work as well as any, and their heads, legs, and thorax, are like their fellows'; but these black bodies look very strange. Now you will kindly give me credit for not mistaking them for the black, hairless, shiny bees, which we often see being expelled from their hives, and are suffering from a disease known as *baecilli depletus*, and are often mistaken for robbers. The bees I allude to are not those. I have given some other facts about this race, and also some of their vagaries, elsewhere in another bee-paper, consequently I will pass on.

SECTIONS BUILT OUT WITH COMB THE PREVIOUS YEAR.

If you wish these to be finished as fast, and look as well as others, you must, with a keen and warm knife, pare them down to within nearly half an inch of the midrib before you put them on; they will still act as a bait to draw the bees into the super, and will be built out with the other sections, and look as well.

DOUBLE-DECKED COMBS.

I have had two cases of this occur in two of my supers this year. They are bars $4\frac{1}{2}$ inches deep, and spaced 2 inches apart instead of $1\frac{1}{2}$, and the bees first built out the combs to the ordinary thickness, and sealed them, and afterward built another row of cells on the sealed surface of one side of the comb, and filled that with honey, and sealed the cells the second time. I discovered it when I came to extract, but the bases of the outer row of cells were flat, not natural based, as illustrated in GLEANINGS for April 15.

EXTRACTING FROM COMBS THAT HAVE BEEN USED FOR BREEDING.

Breeding in the combs toughens them considerably, and they will bear the extractor much better; but the color of the honey is not so fine, and the bees are far more disposed to store pollen in them than they are cells that have not been bred in. The top corner cells of the frames in the brood-nest are, I may say, never bred in. Did any one ever see any pollen stored in them? Consequently I do not use frames for extracting if they are pollen-laden and brood-stained the previous year. I have to be very careful over my honey, as I have a good private trade, and command my price. I can make one shilling per section of the comb honey, and the same price per pound for the extracted when put up in white flint-glass bottles. I do not mind telling you, as you are not near me to compete with me for price, I allow a storekeeper, who sells about half my crop, 15 per cent discount for his trouble and risk, and am usually cleared out by Christmas.

I am well content with my harvest, although I have sold lots of bees to a dealer who took as many swarms and queens as I cared to sell, consequently I allowed them to swarm as they chose, and even my nuclei stored surplus some days while the queens were getting fertilized. I have had 200 acres in my radius, of white and alsike clover, and the largest tract lay to the northwest of my bees, and they have had to cross a high road to get at it, and I have been called out by passers-by, who have insisted they were swarming, as they boom backward and forward after this clover honey.

Nature has evidently righted the mortality of last year by causing bees to swarm excessively this year, and the good yield has induced many faint-hearted ones to hold on and not give up yet.

England, Aug., 1889.

AMATEUR EXPERT.

My friend, I quite agree with you in the point you make, that gentle bees may be taught to be cross, and *vice versa*. I have several times been inclined to conclude that young bees were vicious simply because of the example before them from childhood up; notwithstanding, I have several times killed the queen of a cross hybrid stock, just because they were so vindictive. In fact, I have had hives that were the terror of the whole family; but after giving them an Italian queen I have astonished the whole family by taking the hive all to pieces and showing them only gentle Italians where, but a few weeks before, had been those stinging tigers. I have seen these occasional black bees, but I always supposed they were stragglers that were driven from some other colony, although that explanation never seemed satisfactory.—I think the idea has been before advanced, that honey from old dry combs is not as

nice as that extracted from white new combs. I believe, however, that where experiments were made for the purpose of getting at this matter directly, just as fine honey was obtained from the old combs as from the other. Any admixture of pollen, however, is surely detrimental.—I am very glad indeed to hear so good a report from clover sown purposely for bees—at least I suppose it was, as you state it.

McINTYRE'S SCALE-HIVE RECORD.

DOOLITTLE'S METHOD OF RAISING CELLS.

I ENCLOSE my scale-hive record for this season. You see it differs from Mr. Mercer's, page 619, in being longer at both ends, and my best honey days do not come on the same day that his do. I believe his scale-hive was located about 20 miles further from the coast than mine. If those scale-hive records are as interesting to others as they are to me they are worth printing; and if the hive has not been packed to make a big report, they tell very accurately what a location will do. This was one of my best colonies that did not swarm.

Date.	Gain in Pounds.	Date.	Gain in Pounds.	Date.	Gain in Pounds.	Date.	Gain in Pounds.
April.		May.		June.		June.	
20	1	17	2	6	2	27	2
21	3	18	3	7	$1\frac{1}{2}$	28	1
22	4	19	3	8	$2\frac{1}{2}$	29	2
23	2	20	$2\frac{1}{2}$	9	3	30	2
24	$\frac{1}{2}$	21	$1\frac{1}{2}$	10	$3\frac{1}{2}$	July.	
25	1	22	1	11	5	1	$1\frac{1}{2}$
26	1	23	$1\frac{1}{2}$	12	6	2	1
27	0	24	$2\frac{1}{2}$	13	3	3	$1\frac{1}{2}$
28	0	25	3	14	$1\frac{1}{2}$	4	$3\frac{1}{2}$
29	$\frac{1}{2}$	26	3	15	1	5	$1\frac{1}{2}$
30	1	27	4	16	9	6	$1\frac{1}{2}$
May.		28	$3\frac{1}{2}$	17	2	7	$1\frac{1}{2}$
1-8	0	29	3	18	1	8	$\frac{1}{2}$
9	1	30	3	19	1	9	$\frac{1}{2}$
10	2	31	4	20	1		
11	$\frac{1}{2}$	June.		21	$1\frac{1}{2}$		
12	$\frac{1}{2}$	1	6	22	$1\frac{1}{2}$		
13	1	2	5	23	1		
14	1	3	5	24	2		
15	1	4	2	25	2		
16	1	5	$1\frac{1}{2}$	26	2		

My average for 500 colonies was only 50 lbs. per colony.

QUEENS AND QUEEN-EXCLUDERS.

I put on 25 queen-excluders last month to try Doolittle's method of rearing queens; 5 colonies refused to build the cells, although I gave them the second batch of prepared cells. One queen got above the queen-excluder, and the cells were torn down; the rest built out the cells in good shape. I intended to let the young queens supersede the old queen below, so I left a cell to hatch in each super, which it did in due time; when the young queens were about a day old I removed 15 excluders. Two days after, I looked in front of the hives to see if the old queen had been killed. Instead of finding the old queens I found all of the virgins, but one, dead in front of the entrance. The one I did not find, superseded the old queen. The other 5 were left above the excluders, to become fertilized through a hole in the super; but they were all killed.

Although this part has failed with me, I still feel under great obligations to Mr. Doolittle; for I never before succeeded in getting queens that suited me, from eggs or larvæ intended for workers. Queens reared in the brood-chamber of a colony preparing to swarm or supersede their queen, are better than

those reared above a queen-excluder; in fact, I don't think we can improve on the plan of going to a colony that is preparing to swarm or supersede their queen, cutting out all the queen-cells they have started, and giving a frame of started cells from your best queen. I have over 100 queens in my apiary, reared this season in that way; and they are nearly all superfine xxx queens, and I don't regret the time spent in rearing them.

Fillmore, Cal., Aug. 26, 1889. J. F. McINTYRE.

And so, friend M., you had only one day during the season when the hive gave as much as 9 lbs. You surely have not had a very bountiful season. It seems a little singular that your honey-yield commences pretty nearly as ours does here—at least not very much earlier; and it closes toward the middle of July, just as it does here in Ohio, as a rule. Where such an experiment is made, it were no more than fair to state how many colonies there are in the apiary, and also how many in the vicinity, that we may see how fully stocked was the field.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

RAISING QUEENS ABOVE QUEEN-EXCLUDING HONEY-BOARDS, AGAIN.

Several years ago a question of priority of a certain discovery pertaining to bee-keeping arose in a western bee-paper, wherein one of the claimants gave plenty of printed proofs of his claim, yet he was misquoted, misrepresented, and misused, till he began to think that, if he ever made any future valuable discoveries, he would use them to his best interests and let others find them out as best they could. Still, I believe there are some who are willing to give "honor to whom honor is due." In GLEANINGS, page 685, it is conceded that Heddon has the oldest claim on raising queens over a laying queen. His writing dates back to 1885. See GLEANINGS, page 518. Now, will you please turn to GLEANINGS for 1883, page 13, to my article under date of Dec. 18, 1882, headed "Two, Three, or More Laying Queens in one Hive"? nearly three years ahead. I believe this is essentially the same principle that Dr. Tinker has just got a *patent* on. Next!

A. A. FRADENBURG.

Port Washington, O., July 25, 1889.

Friend F., I have just turned to the passage you mention. I had not forgotten it at all, nor my foot-note to the communication. Why I did not mention it at the time I gave Doolittle credit, was because *you* succeeded in getting only *one* of the queens fertilized, and this at the time seemed to be rather accidental. That is, I have been well aware for years that I could get an extra queen in almost any hive about one time in three, by making the brood-nest larger or cutting it nearly off, as you did, by slipping back the cloth cover; and I am inclined to think even now that there will be so many failures, queens will not be reared and fertilized to any great extent above the queen-excluding honey-board. I have before suggested the difficulty, when you want to examine the brood-combs in the hive below. Some one

says it can be done without any trouble. Well, I had a great deal of trouble when I experimented in this line. The queen belonging to the upper story would sometimes take wing when the upper story was set off on the ground, and alight in the lower story while I was handling it. Now, unless I got the hive together again, and got her back where she belonged, there was trouble. I should much prefer to have a part of the brood-chamber divided off by a queen-excluding division-board, and then either one can be examined without interfering with the other. But this idea was given by D. A. Jones when he first brought the queen-excluding zinc so prominently before the attention of the American people. It seems to be the old story over again. It is hardly safe for anybody to say in bee culture, "This is my invention." When it comes before the public, it transpires that a dozen others have been at some time or other working along in the same line, and very often the thing has been described very closely in print years before.

BEEES TEARING DOWN STARTERS, ETC.

How high do Alaska peas grow?

Do you have any trouble with bees eating the starters in section boxes?

Where bee-keepers cage the queen to prevent swarming, what kind of cages is used most?

Monroe, N. Y., Aug. 8, 1889. MILLARD MAPES.

Alaska peas grow to about the height of two feet.—Bees will sometimes, when they have nothing else to do, eat away starters in the section boxes. They rarely do this, however, and you need apprehend no serious trouble from this source. With flat-bottom foundation we have sometimes noticed the bees tear it down and rebuild it.—For caging queens in the brood-nest during swarming time, no particular cage is used. Perhaps as good as any thing is a piece of wire cloth folded into a cylinder, one end of which is stopped by a wooden plug, and the other by a plug of "Good" candy. This latter should be protected so that the bees of the colony can not get at it, otherwise they will liberate the queen in 24 hours. Dr. Miller never places any food in the cage, and I think has never found a queen dead.

BLACK BEES FOR BUCKWHEAT, AND ITALIANS FOR CLOVER; WHICH ARE THE BEES THAT GATHER THE WHITE HONEY?

The two bushels of Japanese buckwheat I got of you I sowed June 20th on four acres. June 29th there came a terrible hailstorm and cut nearly all of it down. I did not think there was enough left to stand on ten rods square of ground; but it has come up to nearly a quarter of a crop. I was looking over it this morning, and the bees were fairly roaring over it; but they were nearly all black bees. I saw but one Italian on it, and two or three hybrids. I then examined the white clover. The bees were working lively on it, and nearly every one was Italian. I saw two black and a few hybrids. I wish others would examine and see if bees are working the same way in their locality. I have 29 swarms of Italians, 2 or 3 of blacks, and 13 hybrids, within 100 rods of the buckwheat, while my neighbors have plenty of black. One correspondent writes that

bees worked very little on the Japanese, while they were fairly swarming on the silverhull. From what I can learn by observation, tastes differ in the different races of bees. I should like to know if there is a difference in the quality of honey made by the two races; and if so, which is the best? In looking over my bees last week I saw two queens in each of two hives—one old one and one young one. I knew the old ones, for their wings were clipped; but they were much smaller than the young queens. Is it a common occurrence? E. S. HANSON.

La Otto, Ind., Aug. 7, 1889.

It is not uncommon to see black and hybrid bees gathering dark buckwheat honey, while Italians are gathering light honey from clover.

HONEY-POISONING IN NEW ZEALAND.

I send you a clipping from one of our papers, on honey-poisoning. It is the first case of the kind I have heard of in New Zealand. THOMAS DIXON.

Masterton, New Zealand, July 12, 1889.

A few days ago a northern telegram gave particulars of a remarkable case which had occurred near Matata, in the Bay of Plenty, where three brothers, who had gone into the bush in search of honey, were poisoned, and two of them died. It was supposed that this fatal result had been because they had eaten of honey which contained some poisonous ingredient. Mr. Hopkins, who is our best authority on the subject of bees and honey, wrote to the *New Zealand Herald*, stating that the only plant which had ever been known to convey poisonous qualities to the honey was the wharangi, but it could not have caused these deaths, and, besides, this was not the season when the bees could gather any thing from it. Mr. K. de Thierry has given the *Herald* some important information on the subject. He states that on one occasion he was traveling along the sea-coast with some Maoris when they fell in with a store of honey accumulated by some wild bees. Mr. de Thierry and one of the natives ate heartily of the honey as they found it. Soon after Mr. de Thierry was affected with giddiness, and fell down, feeling very ill. The native who had eaten with him was similarly affected. The Maoris promptly adopted remedial measures, such as they had probably tried before in similar cases. They kindled a fire, piled some seaweed upon it, and held Mr. de Thierry amongst the fumes till he became so sick that he vomited freely. By and by he got better, and the native, under similar treatment, also recovered. Mr. de Thierry says that the poisoning arises from the bees having access to the karo (*pittosporum crassifolium*), a tree or shrub which grows all around the coast of New Zealand. At a certain season a kind of gum exudes from the karo, which the bees use for the wax of the combs. The poison is in the wax, not in the honey. This matter is of importance, for bee-keeping is now general, and the karo is being generally planted, as it makes a pretty and useful hedge. It can stand any amount of stormy weather, and also the spray of the sea.—*Evening Post*, Wellington, New Zealand.

SHALL THE BEE-KEEPING INDUSTRY BE REPRESENTED AT THE WORLD'S FAIR IN 1892?

It is now a pretty well-understood fact, that in 1892 we are to have a grand "World's Fair" in New York, and in that case it is important that the exhibit of bees, honey, and supplies, be the finest ever seen in this or any other country. A grand exhibit of this kind would do wonders in increasing the market for honey, and would do our whole industry a world of good. Let us therefore put our shoulders to the wheel by recommending some one to act exclusively for our industry, on the proper committee, and have an exhibit that will show the world that we are the foremost nation in bee-keeping. It would be well for our conventions to recommend some one who has the welfare of the whole industry at heart, and who is within reach of

the city. If the several conventions will send me their recommendations I will see that they reach the proper authorities, as I am constantly in New York. I have already written to the Mayor, urging the appointment of some one to look after bee-keeping and bee-keepers' supplies; but the recommendation of our different conventions would be of far greater weight. Let us start the ball rolling, and we shall see such an exhibition in our line as was never seen before. JOHN ASPINWALL.

Barrytown, N. Y., Aug. 26, 1889.

Your suggestions are good, friend A., and we heartily indorse the scheme. Why wouldn't Dr. A. B. Mason, the president-elect of the N. A. B. K. A., be the man? He has had more experience in this line than any one else we know of. He is big enough in every sense of the word to talk down the comb-honey slanders. Let's vote for the doctor.

A CHEAP SUBSTITUTE FOR ENAMELED CLOTHS, ETC.

In a late issue of *GLEANINGS* you say that the bees will always cut out paper. I have used manilla tag-board, 100 sheets, 24 x 36, 100 lbs., worth \$2 25, for a number of years, for covers, in place of covers or enamel cloth, and I very much prefer them. The bees never cut them unless I am careless and let them get at the edges, by leaving, say, ½ inch bee-space. I paint the board with oil and ochre. From the above you will see they are cheap. Several issues back you speak of sulphur. Have you tried melting it in an iron kettle or ladle, and dipping in it strips of strawboard or several folds of coarse wrapping-paper? This was the way my grand-parents used it in England, and I have failed to have an improved way pointed out. Nail one or two uprights on a block; set the block on something not combustible; lay in the sulphur; match and fumigate as you wish.

Our bees are doing the best they have done for a number of years; though our best harvest (golden-rod and fall flowers) is not yet opened.

Emmetsburg, Ia.

J. C. BENNETT.

No doubt, manilla tag-boards as heavy as you mention would answer the purpose nicely. They are very apt to get injured, however, and can not be peeled over the frames like the enamel cloth, and therefore they have not found much favor.

RAISING CELLS ABOVE A QUEEN-EXCLUDING HONEY-BOARD; WHO HAS THE PRIORITY OF THE IDEA NOW?

In the spring of 1882 I adopted a plan of artificial swarming by shaking the bees off the combs on to frames filled with foundation, and placing the brood in a third story on top, or over the wide frames. I found, by cutting out the ends of the wide frames, that enough bees would go up to care for the brood, and that they would build queen-cells every time. I used a queen-excluding honey-board over the frames in the lower story. I communicated the above facts to Mr. W. J. Rasin, of Jenkintown, Mont. Co., Pa. (since deceased). He wrote to Mr. Heddon, asking his opinion of the plan. Mr. Rasin told me that Heddon did not think very favorably of it. I am not sure, but I think he also wrote to Mr. Hutchinson about it. I mentioned it in a letter to Doolittle, and I also wrote to you, stating that I would describe the method in an ar-

ticle for GLEANINGS, if desirable. Not receiving any response I came to the conclusion that you did not think it worthy of note. I can furnish affidavits of two other bee-keepers in this locality, to whom I communicated the facts, and who have practiced this method for four or five years.

Ashbourne, Pa., Aug. 23, 1889. W. E. FLOWERS.

MUMFORD'S CLOVER-BLOAT REMEDY A SUCCESS.

A. W. Mumford's remedy for clover bloat (see p. 672) is good, I know, as I have practiced it for several years. I had a cow some years ago that would have the bloat nearly every day when first turned on clover. She got so she would come to the barn when first taken, seeming to know she would get relief. I had a stick about a foot long and 1½ inches through, with a cord on each end, in a handy place; and when she came up I would put it in her mouth like bits, and tie it back of the horns and let her go. In a short time she would be all right. It has never failed with me. If used in time I think it will cure any case of bloat. S. H. MALLORY.

Decatur, Mich., Aug. 24, 1889.

Thanks, friend M. Your testimony settles the question in regard to the value of this simple mechanical remedy. The above may have been published in our agricultural papers, but I have never come across it.

EXCESSIVELY HOT WEATHER IN CALIFORNIA.

We are having the hottest weather this season, since 1885. One day the thermometer went up to 114 in the shade. I ventilated my bees early in the morning, and did not have any melt down; but some of my neighbors were less fortunate, and lost a number of colonies entirely by melting. If you never experienced such hot weather, it is interesting; the perspiration starts from every pore; and the only way to keep cool is to keep your clothes wet. Every thing in the house feels hot, even the marble on the bureau; and wife says the wheel on the sewing-machine almost burns her hand. You feel like saying, "Excuse me," when asked to take a chair. I kept the lawn-sprinkler running, and every half-hour the children and myself would go out and stand under it until our clothes were wet through. It would be foolishness to try to work out in the sun, for the thermometer says 134 out there, so I will sit in the house and work the typewriter. I put a wet cloth around the thermometer to see how much it would go down. It went from 114 to 80. That is nature's way of keeping the blood cool; but when the thermometer is 114 I prefer to pour the water on the outside rather than take it internally. J. F. MCINTYRE.

Fillmore, Cal., Aug. 24, 1889.

Friend M., we are very sorry that it was so hot; but we are much obliged to you for your valuable report and suggestions. You ought to be thankful for that beautiful irrigating canal that runs just back of your ranch, along the mountain-side, away up above the tops of your orange-trees. I think I could stand 114 very well, if I could have a spray of that beautiful spring water playing constantly over me; but I am greatly astonished to find that a wet cloth could reduce the temperature from 114 down to 80. Give my respects to the little girl who beat Uncle Amos climbing the mountain, and carried her dolly besides.

ANSWERS TO QUESTIONS

FROM OUR A B C CLASS.

This department is designed primarily to cover questions either not already answered in the A B C of Bee Culture (price in cloth \$1.25), or, if incorporated in this work, are here dwelt upon more in detail on account of the importance of the question. While these answers are of vital interest to the A B C scholars, they will doubtless be found, in many instances, to be of considerable value to the more advanced student. For lack of space, the question itself, instead of being directly stated, is omitted, the same being implied in the answer. It is hoped that the class will first consult their text-book before sending in their questions.

THE CHARACTER OF HONEY-DEW.

F. C. F., *Massachusetts*.—Honey-dew is not necessarily fatal for wintering, but it is usually safest to extract it or remove such combs containing it, and use them during the latter part of spring for feeding. They are just as good for stimulating brood-rearing. Honey-dew is usually dark, almost black. The flavor is very unpalatable—almost sickening. See "Aphides," also "Honey-Dew," in the A B C.

HOW TO START IN BEE-KEEPING THE MOST ECONOMICALY.

M. D. S., *Massachusetts*.—We would not advise you to buy a black queen with Italian bees. Your better way is to buy an Italian queen with black or hybrid bees. This will in time give you a very nice Italian colony. The cheapest way to start an Italian apiary is to purchase two or three swarms of black bees; catch and kill their queens and introduce to each an untested Italian from some good breeder. If you can not purchase the black bees, the next cheapest way is to buy a pound of Italians with an untested Italian queen. Put these on some frames of foundation, and give them stimulative feed, and in two or three months you will have a pretty respectable colony to go into winter quarters.

SURPLUS POLLEN IN COMBS, AND WHAT TO DO WITH IT; WHEN THE BEES WILL PULL OUT FOUNDATION.

C. N. L., *Michigan*.—We would not advise you to cut out the pollen in the frame, and insert in its place comb foundation. As there is no practical way of getting it out of comb mechanically, keep such combs over till next spring, when they will be quite valuable for stimulating brood-rearing. As it is desirable to get colonies as strong as possible for the honey-flow, which comes later, these combs containing some pollen will save quite a little in the way of stimulative feeding. It will be very much cheaper to use frames of foundation, rather than to mutilate combs containing pollen. The best time in the year to have foundation drawn out is when honey is coming in. As a general thing, bees will not pull it out at other times, except under the stimulus of feeding.

H. L. S., *Ohio*.—You might choose bee-keeping as a means of livelihood, but you must be prepared to stem over now and then a bad season, when the returns from the apiary or apiaries would barely if at all cover expenses. It is usually safer to combine some other pursuit with bee-keeping, if the locality is not always to be depended upon for honey. Whatever you do, we would advise you to make a small beginning. By all means make the bees pay the expense of all needed improvements consequent upon their increase. As to which branch of bee-keeping will pay best, the production of extracted or comb honey should be settled by your

market. You can transfer safely now, although you will have to be careful, on account of the large amount of honey in the combs, to keep robbing from getting started. A six-inch saw would answer your purpose for hive-making. Of course, a larger one would be many times convenient.

OUR QUESTION-BOX,

With Replies from our best Authorities on Bees.

All queries sent in for this department should be briefly stated, and free from any possible ambiguity. The question or questions should be written upon a separate slip of paper, and marked, "For Our Question-Box."

QUESTION 143.—*a. Jones prefers hybrids because they are as good or a "little better" workers than the pure Italians; and, further, because he can shake them (the hybrids) off the combs easier, for extracting. Besides all this, he says it is considerable trouble to keep Italians pure. Brown does not agree. While he admits that the hybrids are, as a general thing, as good workers as the pure daughters of Italy, he prefers the latter; because, as they are less inclined to sting and rob, he can get through with more work in a day. He avers that the time gained in handling gentle bees more than compensates for the extra trouble and expense in keeping the race pure. Now, the question is, whose side would you take? b. Whose side do you take in actual practice?*

a. Jones; b. Jones.

H. R. BOARDMAN.

I side with Brother Brown, every time.

C. F. MUTH.

a. Jones. b. Jones, Jones, JONES.

P. H. ELWOOD.

My bees are mostly pure Italians.

S. I. FREEBORN.

In theory or actual practice I take Brown's side.

P. L. VIALON.

Brown's side, every time. We are always sorry when we neglect to keep up the purity of our stock.

DADANT & SON.

Brown's side, as I find that the dark Italians are as good workers as hybrids, and they are equally hardy.

A. E. MANUM.

a. Jones's side; yet my dislike of so much stinging, and my love of the beautiful, have led me in practice to follow more after Brown. R. WILKIN.

a. As a honey-producer, I am with Jones; as a queen-breeder, with Brown. b. In practice I have only hybrids between Carniolans and Syrians, with, quite likely, some Italian and some German. So far as I have got, I like my present bees.

A. J. COOK.

a. Brown is right; while some hybrid swarms are as good workers as the Italians, I do not think they will average as good; besides, there is the pleasure and comfort of handling gentle bees. b. Brown's; my "other half" says, "Durn the hybrids."

MRS. L. HARRISON.

a. Brown's. b. Brown's, as near as I can; but I question whether, in ordinary practice, it pays to supersede every queen not absolutely pure. All good methods can be carried to an excess, and judgment has to be used in this as well as in many other matters connected with bee-keeping.

O. O. POPPLETON.

a. I prefer the hybrids, or a bee that will show two bands, and many three bands. They look well and work well. I have had very bright Italians, and the results from them were not so satisfactory. I take but little pains to keep my bees up to a gold-

en standard. I am discarding the shaking and brushing plan for something better, where even cross hybrids keep their temper. b. JONES.

RAMBLER.

Both my theory and my practice favor the hybrids. I dissent from the theory that hybrids are specially vicious, so far as it concerns carefully bred ones. I think, also, that the reputation of the Italians for gentleness needs a good deal of discounting—their gentleness being a matter of appearance rather than of reality. I fear that very gentle bees of any race will be found deficient in energy.

E. E. HASTY.

I think Mr. Jones's main reason for preferring hybrids is the one least emphasized—"considerable trouble to keep Italians pure." There is little difference between some hybrids and Italians generally. Italians sell better, and are a little nicer to handle. The working qualities average up about even with hybrids. On the whole, for practical purposes I would not take the trouble to keep them pure; and this is what I practice.

GEO. GRIMM.

Now look here. You're not going to get me to side with either. For a number of years I have tried to increase the Italian blood in my apiaries; but without a good deal of trouble there will be plenty of hybrids, and I think well enough of them to take very great pains to be rid of them. As to the matter of gentleness, I take them as they come; only when some colony shows a bad pre-eminence in the way of crossness, their queen's head comes off at the first convenient opportunity.

C. C. MILLER.

a. Brown's. Jones is certainly mistaken, in my opinion, in regard to hybrids being better workers than Italians. If he will weigh all the honey in all parts of the hive from either race, he will find, if I am not very much mistaken, that there will be a little amount in favor of the Italians, especially in a poor season. Because the hybrids put all of their honey in the sections, thereby leaving them in a starving condition after the sections are taken off, does not make out that they are the best workers. b. After trying all the different races of bees which have come to our shores, I have now nothing but Italians.

G. M. DOOLITTLE.

a. I'd take Jones's side; but I want some pure bloods to raise queens from. I don't raise drones (I guess I will this year, though, in spite of myself, for the bees are playing hob with the lower corners of most combs), and not one in five of my queens is purely mated. b. Jones's. My hybrids are not so cross as many write about. I have opened the hive of every colony I have, and examined them at least once each week, since March 24th, and have used smoke only twice on a few colonies. I generally, but not always, wear a veil, and I've been stung but little. The crossiest colony I have has an imported Italian queen from A. I. Root. Do you know him? May be my bees are good-natured because I don't scold them.

A. B. MASON.

a. Jones; b. Jones. Our bees are, most of them, more or less mixed Italian and blacks, or brown bees, and the nearer they come to being pure brown bees, the better I like them. I have several Italian queens from queen-breeders, and I had two imported Italian queens, and I never had a strain of Italian bees yet that were as good natured as the

blacks. All the Italian bees that I have had have been cross, and ugly to handle. We are now going to try the Carniolan bees, as they are recommended to be less inclined to sting, and I believe they will be more gentle than the Italians, as they look more like the brown bees. As for myself, I can handle any of them without gloves or veil; but other folks have to be about them, and for that reason I want good-natured bees. E. FRANCE.

a. I agree with Brown. I think that Italians are as good as hybrids in all respects, and, in some points, as those mentioned, a great deal better. Cross bees certainly cost a great deal of time, to say nothing of comfort and temper. I am not fond of shaking and brushing bees off the combs for extracting. I would rather let them crawl off. The Reese bee-escape does the business, and saves time, trouble, and stings. b. In practice, hybrids are always to be found in my apiary, because there are black bees around me, and I do not think it worth while to replace a good queen simply because she is mismated. Nearly all my queens, though, are reared from selected Italian stock. My breeding queens are selected, not because of the looks of themselves or bees, but principally because of the work their bees do. Yellow bands do not gather honey. J. A. GREEN.

a. Although I am a strong advocate of judicious crosses between the best strains of German and Italian bees, I do not prefer such bees as Jones describes. Judicious crosses (call them hybrids if you will), while they shake from the comb more readily, they do not leave the combs when the hives are opened, and fly into the air and roll down in balls at your feet any more than pure Italians. Again, they differ from Jones's hybrids, because they do not sting or rob any more than any other bees extant. If these crosses were not as good natured as any other good working strain of bees, I would say, get the good-natured strain and discard the others. The above is my practice. I know of no bees any more easy to handle, nor as good honey-producers, nor as excellent comb-builders, as the cross-bred bees above described. JAMES HEDDON.

Well, friends, I am a little bit surprised, and may be somewhat disappointed in your reports, especially as so many side in with Jones. There is one point, however, where I should agree. The man who destroys good queens simply because the workers have not all the marks and stripes to accord with his notions, seldom becomes very much of a honey-producer. We meet such individuals now and then. What I mean is, those who lay great stress on looks and markings, and little or none on other qualities as honey-gatherers. In visiting the great honey-producers I almost invariably find they have more or less hybrids; but their colonies are all populous, and most of them are great workers. Another thing, one must have a good deal of time to spare who watches the markings of bees of every particular colony when he has stocks of the hundred. A great many honey-producers also, if I am correct, are in the habit of destroying queens where the bees are exceedingly vicious; and they do this, too, even if said vicious colony gives extra yields year after year. It is true, that blacks as well as Italians occasionally give us very gentle

bees, and the reverse is also true. I can not remember now, though, that we ever had a colony whose queen was imported from Italy, whose bees were so cross that we regarded them as a nuisance. Dr. Mason, are you sure that you did not "scold" that colony of imported bees? You should have written right back to A. I. Root, that he was an impostor and a fraud, because he sent you a *hybrid* queen when you ordered and paid for an *imported* queen.

QUESTION 144.—a. Which bees, as a general rule, give the most honey according to your experience—leather-colored Italians, or the very yellow bees? b. Are the so-called four-banded golden Italians any better workers than the average Italians?

a. Leather-colored. b. No. RAMBLER.

a. I think the leather-colored Italians deserve the preference; b. No. GEO. GRIMM.

a. The leather-colored Italians; b. No, not as good with me. A. E. MANUM.

a. Leather-colored; b. Not according to my experience. A. J. COOK.

a. Leather colored, part black. b. I don't know them. P. H. ELWOOD.

a. The leather-colored Italians, every time. b. No, not that I know of. JAMES HEDDON.

a. The leather-colored. b. No. As a general rule they are not much better workers than German brown bees. PAUL L. VIALLO.

I never saw much difference in the honey-gathering qualities of bees as to color. b. I never had any. E. FRANCE.

a. My experiments have not been sufficiently accurate to justify an answer in favor of one or the other. R. WILKIN.

a. The dark Italians, or a cross between the yellow and black bees. b. I think not.

H. R. BOARDMAN.

a. I have not made close enough observations to have a decided opinion. b. I don't think I ever had any four-banded bees. C. C. MILLER.

The brightest Italians are good enough for me. But the greater propensity for honey-gathering among those mentioned above is imaginary, according to the best of my judgment. C. F. MUTH.

a. I have not got that conundrum answered yet, in my own mind. When I do I will report. I have two swarms of very yellow bees, that are certainly very fine in every respect. MRS. L. HARRISON.

Very yellow Italians may be very good if they have not been bred "in and in," with sole regard to color, as is too often the case. For this reason we feel safer with the leather-colored bees.

DADANT & SON.

a. My first experience with yellow bees was not satisfactory. I have had for some time very light bees that are equal to any in color for honey. b. I know nothing about the four-banded Italians.

S. I. FREEBORN.

The leather-colored Italians. The stock I prefer is neither very dark nor very light. The yellowest bees I ever saw were also about the poorest workers. Some strains of these yellow bees produce comb honey with dark cappings. I would not keep a queen which produced such bees, in my apiary.

There are Italians which produce as nice comb honey as the blacks, and I aim to keep only such.

J. A. GREEN.

a. In Northern Iowa the light Italians gave me the best honey-yields. b. I have had no experience with the four-banded golden Italians, but I presume they are only a very light strain of pure Italians.

O. O. POPPLETON.

a. The leather-colored. b. My prettiest, that is, very yellow bees, are my poorest workers. A few years ago I bought a beauty of an imported queen of A. I. Root. Her progeny were perfect beauties, and all just alike, and she kept the frames full of brood, but they did not swarm, and gave no surplus, while the apiary of 75 colonies, this one included, gave an average of 60 pounds of basswood honey to the colony.

A. B. MASON.

'Spects that "leather-colored Italians" is mostly a nice, gentle term for a well-established strain of hybrids—imported bees by no means excepted from this remark. If you want Italians, get Italians. Then if you want them mixed, mix them yourself. I have owned but few colonies of very yellow bees; but I think very bright color is sometimes accompanied by lack of energy. The four-banded Italian is an "animile" I am not familiar with.

E. E. HASTY.

a. According to my experience there are three strains of Italians in this country—the dark, or what is called "leather-colored;" the orange, and the light yellow, or lemon-colored. Of these I place the orange-colored first; the leather-colored second, and lemon-colored third. b. Why say "so-called"? Bees either show four golden bands on the horny scales to the abdomen, or the person saying they do is telling that which is fallacious. If said four-banded bees are as good workers as any of the others, are we not a point ahead in keeping them? for, surely, A. I. Root places a higher price on queens of beautiful yellow color than he does on the dark ones. Hence, according to Root, such bees are the best, if they are as good honey-gatherers, which I claim they are.

G. M. DOOLITTLE.

Well, well! There seems to be far more unanimity in this matter of leather-colored Italians than in the former question. Scarcely one favors very handsome bees as honey-gatherers; and yet what a deal of wrangling there has been in years past over this matter of nice-looking bees! I have found men who laid so much stress on the looks of the worker-bees that they would refuse to take a queen as a gift, because the stripes were not just according to their notion, paying no attention to the fact that the queen might be extraordinarily prolific, or that the bees might have gathered a wonderful crop of honey. As a rule, however, the large honey-producers are not of this class of people. Our good friend Dr. Mason seems bent on pitching into A. I. Root to-day. Doctor, what did you do with that imported queen whose bees were such beauties, and just alike? It must be that was a strain of some sort of aristocracy that did not propose to labor for a living. We have occasionally had colonies of very handsome bees that were also excellent workers, and several times I have been tempted to decide that bees for honey are, pretty nearly all, ugly to handle.



Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows; viz.: Sheer Off, Silver Keys, The Giant-Killer, or, The Roby Family, Rescued from Egypt, Pilgrim's Progress, and Ten Nights in a Bar-Room. We have also Our Homes, Part I, and Our Homes, Part II. Besides the above books, you may have a photograph of our old house apiary, and a photograph of our own apiary, both taken a great many years ago. In the former is a picture of Novice, Blue Eyes, and Caddy, and a glimpse of Ernest. We have also some pretty little colored pictures of birds, fruits, flowers, etc., suitable for framing. You can have your choice of any one of the above pictures or books for every letter that gives us some valuable piece of information.

SOMETHING ABOUT BEARS, WOLVES, AND OTHER WILD ANIMALS.

WRITTEN FOR THE JUVENILES, BY UNCLE AMOS.

WELL, little friends, I have not told you a story for quite a spell; at least, I have not written any thing specially for your department; but I have had one in mind for some little time. When I went to visit that great bee-man, Mr. E. France, I found one of his out-apiaries away back in the woods. They are all located near some farmhouse, as a matter of course; and when I came near this special farmhouse there were several things that attracted my attention. The first thing was a brood of beautiful little ducklings. While friend France was unhitching his horse I looked over a low fence and saw those little ducks in charge of a speckled hen. The children had given them a trough of water, and, oh my! how that old hen did sputter and worry because the ducks jumped into the water and splashed about, just as if water was ever so much nicer than air during that summer afternoon! Pretty soon a very nice little girl came out to look after the ducks, and I began to get acquainted. By the time friend France had got around, the little girl's mamma came up, and Mr. F. introduced me as Mr. A. I. Root, probably not thinking that Mrs. Craven had ever heard of such a man as I. At the mention of my name, however, she uttered an exclamation of surprise, and replied:

"Why, this surely can not be A. I. Root, the author of the A B C of Bee Culture?"

Then I pleasantly told her it was. Friend France expressed surprise that they were acquainted with the A B C book, as they were not bee keepers themselves at all. She replied that they once belonged to a horticultural society, and among the books purchased for their library was the A B C. When their society disbanded, the books were divided up, Mr. Craven and his wife receiving the A B C book, which, although they owned no bees, had been read till they

felt quite well acquainted indeed with its author. Then she blew a tin horn, and her husband dropped his work in the fields, and came in. While we sat down to a good substantial farm dinner, he looked at me smilingly, and remarked: "Well, I never expected it would be our good fortune to have Mr. A. I. Root sit down with us at our table."

Of course, after this I felt perfectly free to get acquainted, not only with the children, but with the pack of hounds and the puppies. Friend Craven is a genius, and his special hobby is hunting, trapping, and studying the habits of wild animals. In Wisconsin a large bounty is offered for the scalps of wolves, bears, etc., on account of the damage they do to sheep and other farm stock. Mr. Craven informed me that the wolves some years ago destroyed fifty dollars' worth of sheep in one night on that very farm. The bounty paid for wolf-scalps is something like this: Ten dollars for a

C. has the dogs so well trained that he forbade any one of them biting the wolf at all, and he went in and caught him and put a collar around his neck. When we went in to see the wolf, he turned his head one way and then another, and even pushed it down in one corner, out of sight, covering it with his paws. He seemed to say by his actions, "I do not want to see you at all. Please go off and let me alone." And then he fairly whined, because he felt so bashful, and so much embarrassed in the presence of strangers. His master, however, pulled him out of the corner by a chain, and made him stand up and show himself. I told friend C. that, if he would get the wolf out into the sunlight, I would take his picture with the Kodak. For a long while he kept putting his head down between his paws, or down against the woodpile. But finally we got him to look up; and while he was glaring at me, and showing his teeth, I snapped the key of the Kodak, and here is his picture.

I just wish you could have seen the glare of his eyes as he showed his teeth at me, as he thought I was going to shoot him, or possibly scare the life out of him in some way or other.

Just as we were ready to start I was greatly interested in seeing the thirteen hounds jumping and capering around Mrs. Craven, who was just going out into the yard with a small-sized tub, or something of the sort, in one hand. It was time to give them their dinner, and I laughingly remarked that they were interested in their daily food about as much as any of us. Mr. Craven, however, replied:

"Friend Root, it would perhaps surprise you if I should be able to draw their attention to something else so effectually that, hungry as they are, their dinner would be forgotten and deserted in an instant."

I replied that I could hardly see how it were possible; but he bade me please watch him carefully. I saw smiles on the faces of the rest of the family. Well, what he did

was to slip into the house very quietly, and presently return with his gun. He kept the gun out of sight as much as possible, screening it by his body. But pretty soon one of the grayhounds caught a glimpse of it. In an instant it uttered a peculiar call, or bay; and as if by magic every one of the beautiful animals left the food and started after their master. He slowly walked toward the gate, still keeping the rifle out of their sight; but their eyes and instincts were keen. The whole pack set up a chorus of voices, and in their joy they leaped and bounded around him as if they would spring over his head. Some of them bounded on as if to lead the way; and you never before, perhaps, witnessed such rejoicing by a lot of dumb animals. All this was just because they supposed he was going out for a hunt. Perhaps miles upon miles of travel lay before them, so far as they knew, and doubtless hours of time



THE WOLF THAT DIDN'T WANT TO HAVE HIS
"PICTURE TAKEN."

young wolf, and fifteen for a she-wolf. You see, they pay extra for destroying the *mother* of a lot of cubs. I want to say right here, that friend France is also a celebrated wolf-hunter. In one room of his building at home he and his boys have fitted up about as interesting a museum of stuffed wild animals as we see at our colleges.

After dinner we went into the front room, and one of the curiosities on the table was the skull of a bear, with a hole broken in at one part of it. By the side of the skull lay a hatchet, and friend Craven told me he killed that bear in a hand-to-hand encounter, with no weapon but the hatchet. Friend C. has a pack of thirteen hounds, to assist him in hunting wolves and bears. In a pen near by they had eight puppies just old enough to be pretty and cunning. Inside of the little building, or barn, was a young wolf which the dogs had chased into a brush-heap, if I remember correctly. But friend

without food; but for all that their dinner was abandoned without hesitation, and, to the greater part of them, untasted. Can you wonder that my heart bounded with the enthusiasm which I caught from them? and I fairly longed to go with the dogs and their master, off on a hunt. As I mentally go over the scene I can not help but wish now that I had stayed, even if it made me a week longer in getting home. Next time I will tell you about a wolf-hunt.

A BLACK BEE.

Here is a black bee, and it has long white hair on two of its legs. I never saw any like it before. We have 19 swarms of bees. I help hive the bees when they swarm. Mr. Root, what kind of a black bee is this?

CUSTER R. BROWN, age 12.

Colora, Md., Aug. 23, 1889.

The bee you inclose we should say was nothing but an old black bee. He has been in the service a good while, and has worn the fuzz all off his body, which makes him look real black and shiny.

HEAVY RAINS.

We have two new swarms of bees, and we had another one; but it went back into the hive. The last one stung papa eight times, because they were so cross. We had a heavy rain here in July, and the wind blew branches off from trees, and it blew the wild cucumbers off from the windows. We have not had any surplus honey yet. Our main crop comes from heart's-ease. The Japanese buckwheat that papa got of you is in bloom.

EVERETT THIERY, age 9.

Waco, Neb., Aug. 16, 1889.

UNCLE'S BEES.

My papa has no bees, but I was down to Mr. Stuck's, and he has 45 stands. I watched them a little while. They are making lots of honey just now. Uncle Joseph was hunting bees, and found 4 swarms; 2 were in large trees, and the men didn't want them cut. He cut 2, and brought them home, and each tree had about 25 pounds of honey. Mr. Stuck told me he took off 300 pounds of honey this summer, and has a lot more ready to take off. We live in the country. I go to Sunday-school. I love to go. We have Sunday-school after church. I wish all little boys and girls would go to Sunday-school.

MAGGIE KREBS, age 11.

Schoolcraft, Mich., Aug. 19, 1889.

PAPA'S BEES.

We live up here in Minnesota where there are a great many who keep bees. Six years ago my papa got two colonies, and he has now 115. Last winter he got Mr. B. Taylor to make him 56 hives. Pa thinks they are just the thing to have. He has a place fixed off in the cellar that he winters his bees in. Papa takes GLEANINGS, and he said that he couldn't get along without it. And he also has the A B C book. Papa never did feed any of his bees, as other people do that keep bees. Papa had 4 or 5 swarms go off this summer. Do you think a swarm of bees would go off without clustering first? Some people that keep bees up here say that they had a swarm of bees come out and go right off.

EMMA LEVEY, age 10.

Preston, Minn., Aug. 27, 1889.

Swarms do not generally go right off without first alighting, though they have been known to do so.

THE EVILS OF THE TOBACCO HABIT.

BY THE AUTHOR OF THE TOBACCO MANUAL.

DEAR BROTHER:—I usually read your Tobacco Column in GLEANINGS. In the issue of Aug. 15th, I think there is no such column. In seeing that it was wanting in one instance, I thought that I would write you a sketch of what I am doing this summer; and if you can find nothing better to put in your columns you are at liberty to use this. I thought that I could not use a little of the latter part of the evening of life better than to give a few lectures on the tobacco habit. In cold weather I am not able to be out much, on account of a bronchial affection with which I have been afflicted for some years. I began in May, after it became so warm that I would not be exposed, and shall continue till cold weather. I met with far less opposition than I expected in this work. One fact I try to emphasize in all my lectures, is the ease by which a person may fall into, or contract, a habit, that it is so hard to get rid of. Few are the boys that would wish to contract a habit that would be galling to them the rest of their lives. And yet this is just what most of them are doing when they are smoking their first cigar. One man said to me, just the other day, "I would give a hundred dollars if I could quit the use of tobacco, and be myself, without it." Another who had quit said to his friend who wanted he should take another smoke with him, "I would not do it for a hundred dollars. I would not have the fight over again." Still a third, who had four sons that he wanted to keep from using tobacco, stopped himself to be an example to them; and on being importuned to use it again he said, "Not for a thousand dollars." That was his estimate of his example to his sons. And yet a fourth, who had learned to use tobacco—and yet a young man, but little more than twenty, had the habit so firmly fixed that he said, when importuned to stop, "I would not promise to do it for a thousand dollars." It appears a matter of but small moment to smoke now and then a cigar or take a quid of tobacco; but when one has been beguiled into the habit, the quitting is not so trifling a matter. I found an old man the other day who had not used tobacco for two months, and that day he was chewing hops vigorously, and the women in the neighborhood were sympathizing with him in his effort, if possible, to break up the habit of using tobacco. I don't know how it will turn out; but a woman told me but yesterday that her husband, on quitting the use of tobacco, chewed poplar twigs for a whole year, carrying them all the time in his pocket. So hard is it often to break up the habit that is so thoughtlessly acquired. A sure way to stop the tobacco habit is, *never begin*.

I find many wives, wherever I go, who tell me that, if their husbands are out of tobacco, they would go and get it for them, if they had to pay for it by taking in washing; because they are so irritable and cross, if, perchance, they are without. One of my gravest charges that I bring against tobacco is that it is capable of bringing a person into such a condition, in body and mind, that he can not be pleasant and agreeable without that draught of poison. There is not that family of children, whose father ordinarily uses tobacco but knows, *too well*, when he is without it.

The great evil that tobacco is doing in the com-

munity is not generally sufficiently understood, except by physicians, nor by all of them. For instance, last Sunday I dined with a man in a small town of a few hundreds, and he told me that he had so used himself up with tobacco that he could not write with a pen, and with a pencil only as he steadied one hand with the other, barely to write his name. By the advice of physicians, and with a very great trial, he succeeded in giving it up; and now he can write with a pen, and is enjoying quite good health. He also told me of another man, quite young, in that town, who had to give up business; he called him demented; said he was able to walk about town some, and that doctors were trying to keep tobacco from him. They hope to see this young man recover, and he probably will, if they can keep tobacco from him.

The effects of tobacco are functional, at least for a time; and if the habit can be broken, and not returned to, we can be hopeful of a permanent cure. I have met with two physicians in my lecture-tour who have told me that, during the past year, they have met with patients who did not know what was ailing them, and all they had to do was to prescribe the non-use of tobacco. In both instances, they said, the prescription was followed rigidly, and proved efficacious. There have been, in former years, two difficulties in the way of such prescriptions as I have just mentioned. Some patients have not been willing to believe that the doctor has rightly diagnosed his disease, and perhaps still more who have been unwilling to follow the prescription. However, we will hope, as more light is being shed on the subject, that physicians and patients will get along better in the future than they have in the past.

In my lectures (giving but one lecture in a place, of course), I can say only very little of what might be said on the subject. After a brief introduction I give the poisonous properties of tobacco, as shown by analysis, and then lay down a few well-known propositions, such as are easily proved by undoubted testimony. They are substantially as follows: Tobacco interferes with physical development; it hinders intellectual attainments; it lowers moral character; it is disease-producing; and I close by showing the influence of tobacco on the present condition and future prospects of the church. Under the last head I attempt to show the vast amount of waste of time and money, a portion at least of which rightly belongs to God. The notorious fact that there are twice as many names of females as males on our church-rolls, when taken in connection with the fact that at least nineteen-twentieths of all the tobacco used in our land is by the males, is significant in the discussion of the last proposition. Do away with the production and sale of liquor as a beverage, and tobacco, and I believe we should see our boys and young men as willing to take the vows of the Lord upon them as are our girls and young women. I am quite tired of hearing it argued, as is done in some quarters, that our all-wise Creator "has formed the female mind, by nature, more trustful than he has the mind of man." I would rather trust the mercy of God now than to bring the charge against him, at the judgment, that he did not form my mind as "trustful" as he did the mind of my wife, or the mind of my son as "trustful" as he did the mind of my daughter. I would not restrain the grace of God; but I must confess that I have but small hope

of seeing the boy, or young man, converted, if he keeps himself narcotized with tobacco.

Mapleton, Minn., Aug. 19, 1889.

N. A. HUNT.

Your array of facts prompts me to give something from actual experience here in our own town of Medina. One of our prominent physicians, perhaps the most prominent, was a few months ago very sick. In fact, it was currently reported that he must die, and I never expected to see him out on the street again. In a few weeks, however, I was surprised to meet him. Some little time afterward I asked him what it was that brought him up so quickly—whether it was some important remedy or the skill of some city physician. In short, I told him that I should very much like to know what doctors did when they were dangerously ill. He laughingly replied that he guessed it was a duty of his to tell me all about it. He finally said that, so far as he could determine, his recovery came solely and simply from leaving off a bad habit.

"Why, doctor, you don't mean to say that you were addicted to bad habits while on a sick-bed, and near death?"

"Yes, Mr. Root, I do mean to say just that. And when I decided it was tobacco that was killing me, I cut off right sharp, and got well at once."

But he did not stop his story there. Some little time before the above events, a prominent druggist in our town had a strange affection that made him fear he was losing his mind. He kept getting worse, and he was finally unable to attend to business. He just stayed at home and brooded over the dark cloud that hung over him. He had not even the solace of sleep, for, to tell the truth, he could not even sleep nights. Now, this druggist has a father-in-law who is an old and skillful physician. Of course, the father-in-law did all he could for the patient, but all to no avail. He had already given up business, so as to have his mind free from care or anxiety, but "was nothing better, but rather grew worse," as we read in the language of Scripture. Finally, at the very urgent solicitation of his friends, he called in the physician who had recently recovered. The symptoms were but too well known to him, and he pronounced the whole trouble the result of using tobacco—nothing else. Now, this man rather thought he had not used more than three or four cigars in a day, or possibly half a dozen. The cigars were stopped, when, presto! nature proceeded to build up; reason settled down squarely on her throne, and our friend was able to take care of his business, and to enjoy life. Well, I should like to add that he, like the doctor, cut right square off. Truth, however, compels me to add that the old tyrant did not let him go quite so easily. The last I knew of the case was when I overheard him telling a friend that he could not accept his invitation to smoke, for his physician had cut him down to *only three cigars a day—one after each meal.*

Our proof-reader just now points me to an item in the *Pacific Rural Press*, for June 15. Here it is:

Dr. Hammond has a wise remark on cigarette-smoking—that laws to prevent children from smok-

ing them are impossible of enforcement; that this can be done *only by educating parents* to let tobacco alone. Nearly all the States have indulged in legislation against children. Minors must not do what they see their fathers do. The manufacture of cigarettes may be forbidden, and probably ought to be stopped, as they are, almost without exception, drugged. Dr. Hammond considers the use of tobacco a greater evil than the use of alcohol, and he has the argument with the facts.

OUR HOMES.

Thy word is a lamp unto my feet, and a light unto my path.—PSALM 119: 105.

I FOUND friend Freeborn not only a bee-keeper, but a nurseryman and fruit-grower; and, best of all, a humble follower of Christ Jesus. During my brief stay we did not have time to talk on the many subjects that were of great interest to both of us. But just before I left I found him to be a brother indeed, in more senses than one. Years ago, when the Home Papers were first started, they struck home away out in Richland Co., Wis., in a way that I should never have dreamed of, had it not been for my visit. Brother F. told me of some of his experiences, and how he had learned, in the language of our text, to say, "Thy word is a lamp unto my feet, and a light unto my path." As I look back over the years that are past since I first commenced pleading for Christ Jesus, especially since during my travels I have found a brother here and there whose heart was reached, and, may be, through my earnestness, led to that "Rock that is higher than I," I can only say, "May the Lord be praised for what he has been pleased to do with my humble efforts!" It seems strange and wonderful that I should, without having any knowledge or conception whatever of what was needed in a certain home, have sent just the message that was perhaps required to start some poor soul on the upward grade, from darkness into light.

Friend Freeborn kindly took me in his buggy off over the hills (that are really miniature mountains), to the beautiful place of his son-in-law, Mr. C. A. Hatch. Mr. H. is one of the wide-awake, progressive young horticulturists of the State of Wisconsin. I greatly enjoyed a ramble around friend Hatch's place, especially through the nursery and among the blackberries, raspberries, currants, etc. Friend Hatch has a silo, and is working in a line with all modern improvements. If I am correct, he is president of the Wisconsin Bee-keepers' Association. In a line with the bear stories that I got *hold of* while in California, friend H. said *they* had one to tell. Not very long ago, a bear, after killing several sheep and calves, came into Mr. Hatch's apiary, turned a hive over, scooped out all of the honey he wanted, then came up to the window of the honey-house, which was simply covered with wire cloth. He peeked through the wire cloth, to see what there was interesting inside, gave it a few digs with his claws, and then went on. He evidently was not particularly interested in honey-extractors, one-piece sections, and other apiarian appliances.

The bear was followed up, and killed shortly afterward.

There was a good deal of scolding when I told them that I must take the train for Green Bay in the morning. Friend Freeborn said that ever so many had been making great calculations on seeing me, and one of their ministers had planned to have me talk to some of his people, who would not listen very much to a *preacher*. I felt a great deal touched at this exhibition of his faith in my poor efforts; but it made me sad to think how disappointed this good friend of mine would be if he knew A. I. Root as well as some of his intimate friends know him. Toward evening friend Freeborn and I had a grand ramble, sampling the new varieties of berries away up on the steep hillside. Why, I should never think of using a horse there to cultivate, any more than any thing in the world, where the ground is so sloping that one fears every minute he will tip over and roll clear to the bottom of the hill. But I tell you, the *berries* grow on these hillsides. Next morning, before train time, we visited his apiary at Twin Bluffs, and saw the boys commence extracting again from the very same hives that had been emptied completely only about three days before. The station agent there was also a bee-keeper, and of course he had a friendly greeting for your humble servant. Twin Bluffs derives its name from two beautiful round-topped hills that look almost alike.

My visit to Green Bay I have already described. When that was finished I made all haste to get a steamer at Milwaukee, that I might be enabled to pass the Sabbath with my sister in Manistee, where I expected to join Blue Eyes. But, alas! with all my haste I was obliged to stay in Milwaukee over Sunday. The steamers leave every night in the week except Saturday. I tried to find out some bee-keeper or honey-dealer before night set in, but I did not succeed; and finally, tired out with the labors of the week, hungry for supper, and somewhat homesick, it must be confessed, I sought the nearest respectable hotel. Now, I did not intend to stop at the *finest* hotel in the great city of Milwaukee; but by some sort of blundering I got there nevertheless.

I am rather glad I did, however, for the Plankinton House afforded me a grand opportunity of studying humanity among the higher circles. When told their prices per day were from \$2.50 to \$5 00, I asked for the \$2.50 accommodations. Even at this price my room was a beautiful one—a good deal finer and nicer than I deserved, as it seemed to me. I made up my mind at once that I was going to see what there was particularly different in this great fine hotel from ordinary ones. Well, now, I was greatly pleased and gratified to find that, if it were not a Christian spirit that pervaded this fine house, it was something very near like it. For instance, when I first asked the clerk some questions, he very pleasantly, and without a bit of the superior air that we sometimes find, directed me to a desk adjoining his own. Here I found a good-looking man standing ready to answer all the questions that anybody might need to ask.

Not only this, he had the city directory right before him, and seemed to have learned it so as to have it at his fingers' ends. He at once spoke as kindly, and with as much interest as if he were your S. S. teacher. Besides, errand-boys were ready to do his bidding. He told me all about the churches, Sunday-schools, Young Men's Christian Association, Women's Christian Temperance Union, etc. When I asked him about A. V. Bishop he told me that Mr. B. was but a few doors away, and that a boy would go with me and see if he was in his place of business. When we found he was not, I was directed to Mr. Bishop's residence. Well, he had moved away. But our friend who is employed by this rich institution to help people—in fact, to “minister” to their wants—did not propose to give up, by any means. He found out where Mr. Bishop had moved to; but by the time we got there, no one seemed to be at home, and so we gave it up. Of course my good friend would have assisted me to make Mr. B. a call on Sunday, had I been so inclined. Of course, I did not wish to do so. However, I apologized for making so much trouble, and asked to be shown the building of the Y. M. C. A. I was assured, with a smiling face, that such was their business, and that they were always glad to assist the guests in anything they wanted. Now, I tell you, friends, there is a moral in all this. This great firm had, without doubt, taken pains to pick out a man whose patience was almost inexhaustible, who could answer questions from morning till night, look over directories, listen to any long stories that any of the guests of the house might tell in explaining his wants, and then go to work and *help him*, in the strict sense of the word. This clerk was not an exception. The waiters all over the establishment seemed to be picked men. A bright colored boy takes your hat when you go in to meals, and when you go out he gives the right hat to the right man every time, and does it with a smiling face. When you remember that there are a hundred or more hats and a hundred or more men, you can see that our young friend must be something of a genius. He takes a good look at the hat and then a good look at the man, and I never saw him make a mistake. Perhaps these good friends were all Christians? They certainly acted Christianlike; but I am afraid it was more because they were *paid* for exhibiting Christianlike virtues than because they loved God and humanity. Sunday morning I was up between five and six as usual. My good friend had told me, the night before, that there was no place of worship open before half-past nine. At this hour there was a Methodist prayer-meeting in one part of the city; and wishing to attend as many religious services as possible, I proposed to be on hand; therefore when I had got my breakfast (there was no trouble at all in getting breakfast at six o'clock in the Plankinton Hotel) I looked around for a Bible in order to study my Sunday-school lesson. Well, our obliging clerk, who knew the directory from beginning to end, and who could have furnished

me any thing to *eat* or *drink* that can be found in almost any part of the world, was stumped when I asked him for a Bible.

“Why, my friend, there are probably Bibles in the house somewhere, but I do not know just where to put my hand on them at this hour. I have one at home that my mother gave me, that would be most cheerfully at your service if I could get it just now. But as it is, I do not know what better we can do than to wait until the Y. M. C. A. is open at half-past ten.”

When I was at Woodman, the storekeeper that was offended at my plain talk, said that, if nobody patronized the saloons, there would not be any. He rather threw it in my teeth. This good friend here said it very kindly, but he rather intimated that few people ever called for Bibles at half-past six on Sunday morning; but that if they did, the proprietors of the hotel would certainly have had them in abundance. In fact, they make it one of the *fine* arts to minister to the *wants* of the great sea of humanity that is found in our large cities. I was a sort of eccentric or peculiar individual, or I should not have wanted a Bible—I was going to conclude this sentence by saying, “at such an unseasonable hour;” but my good friend to whom I am dictating was going to put in, when my attention was called to other matters for a moment, “before most men wanted their every-day garments.” Now, I would have cheerfully given the price of a good Bible for the use of one for just those two or three hours. My friend at the desk suggested that I could probably get one at the bookstores; but I told him that the bookstores that were open on Sunday would not, on general principles, *have* Bibles to sell. I did not go out on the streets and try it, for you may remember that it is not very many months ago that a good friend gave me quite a smart reprimand for patronizing people who do sell things on Sunday. While doing everything I could think of to keep the Sabbath holy, without a Bible, my thoughts ran in the line of our text to-day. May the Lord be praised that I *have* found the word of God “a lamp unto my feet and a light unto *my* path”! If I could not have a Bible, I concluded I would go real early to the Methodist prayer-meeting, and so I started off a good deal before the time. My good friend the clerk told me how many blocks it was away, but I did not think very much about “blocks.” When I neared the great Trinity Methodist church I felt glad to know that such large numbers of people were, like myself, going to the prayer-meeting. From their talk, however, I judged they were not just the kind of prayer-meeting people that I had been in the habit of meeting.

When I *first* came into Milwaukee I noticed some great showbills telling by pictures, as well as by great big letters that some girls were going to play a game of base ball. I now noticed that this game of base ball was to come off on Sunday. The girls who were to play were to be rigged out like ballet-dancers; and as we neared Trinity church, the number of pictures in regard to this game of base ball became

more frequent than ever. When we came to the church, the streets were literally filled with crowds; and then I discovered that the game was in a park a little beyond the church. I had been, for a mile or more back, in with the crowd of Sabbath-breakers, going to see girls play base ball on God's holy day. With a sad heart I reached the church. Its doors were not open, and I sat down on the steps. Nine o'clock came; quarter-past; then half-past. Not even the sexton came to open the doors of the magnificent structure that the worshipers might go in. The crowd still surged past to the ball-grounds, and finally *two women*, but no men, came to prayer-meeting. I could not help thinking then of the time when all the world had given up and lost faith in Christ Jesus, our Lord and Savior, and only a couple of women came in the early morning to perform the last rites to his dead body. It just then occurred to me that I was then so far away from the Congregational church, where I proposed to attend preaching, that I could not get back in time, even by the aid of the street-cars. But by inquiry I found there was a small Congregational church not far away from the Trinity Methodist church. I reached there in good time, only to be told that, for some unaccountable reason, the minister had failed to come. Where was the sexton? and where was the leader of that Methodist prayer-meeting at half-past nine? Where, too, was our Congregational minister at half-past ten? Now, don't be hard on me, dear friends, if I did wonder just a little whether it was not possible that these brothers had caught the infection, and gone with the rest of the multitude to see *girls* play base ball. By the way, is it customary to have base ball on Sunday? How is it where you live? May God forbid that this custom should ever get to be common; and a thousand times more may God forbid that the other sex should take up the game on that holy day—the sex that we have been taught from childhood up to regard as a model of every thing that is pure and holy. May be I am finding a good deal of fault with the city of Milwaukee; but I do feel that it was a burning shame that the good people of that city should allow at least a great portion of it to be hung with posters as it was on that pleasant Sabbath morning—posters that were *conspicuous* because of the display and *prominence* that was made of the bare legs of the women or girls who were going to play base ball.

I am now going to tell you what I found in Milwaukee that was *good*. The Sabbath-school in the little church I have mentioned was well attended, and a true Christian spirit seemed to pervade every heart. My heart went out in love to the dear brother who conducted the Bible class, wherein I found a place. His voice betrayed a slight foreign accent; but his words, that came from the very depths of his heart, showed unmistakably that he was intimately acquainted with the dear Savior. The Y. M. C. A. building is one of the finest edifices I was ever in. I think I have been told that it cost something like a *quarter of a million*

of dollars, and that there is perhaps no other Y. M. C. A. structure like it in the United States. The address to the young men was most grand, and fully up to the times. The city is one of the neatest, cleanest, and prettiest that I have ever visited. The rooms of the W. C. T. U. were in plain sight, right across the street from the Plankinton Hotel, and I intended to call there; in fact, I did think of applying there for a Bible; but I was a little timid about going out, even on such an errand, so early on Sunday morning. I suppose that Milwaukee is as well supplied with Bibles as perhaps any other city, and perhaps there were thousands that very morning who would gladly have extended to me the family Bible, had my wants been known. The absence of worshipers at the places of worship may perhaps be explained by the fact that my visit was about the season when many ministers take their vacation. But I tell you, dear friends, it seems as if we ought to bear in mind the fact that Satan *never* takes a vacation; and I should not be at all surprised if he plans his work and masses his forces so as to make his very biggest hits just about vacation time of the church and Sunday-school. The thought of the little ones being led by their parents toward that base-ball game on Sunday morning still haunts me—those little ones rigged out in their Sunday best, and in tiptop trim for Sunday-school—little ones ready to be led to Sunday-school, or ready to be led into the very clutches of the evil one. Dear brother and sister, how is it with you? and how are you leading *your* children? Do they know, and have they already learned, that God's word is a lamp unto *your* feet and a light unto *your* path?

OUR OWN APIARY.

CONDUCTED BY ERNEST R. ROOT.

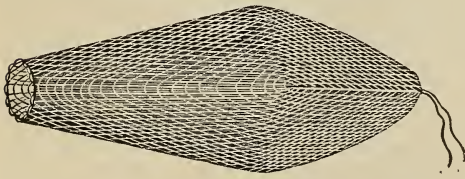
RAISING CELLS A LA DOOLITTLE.

DURING the last few weeks we have been raising, or, rather, completing cells, in the upper stories, above perforated zinc, of two or three strong colonies. The plan is a success after cells have been given them already started. Although we anticipate doing so soon, we have not yet made the little cells with the rake tooth, described in Doolittle's book, and giving the same, when filled with larvæ, to the Doolittle upper stories, as we call them. So far we have been selecting here and there cells started, and which have already in them the larva and its royal food. These have been stuck on to the combs in the Doolittle upper stories. In process of time they were built out nicely, and completed. At first our Mr. Spafford thought they were larger than cells built in queenless colonies; but now he thinks he sees no difference. Those cells that I examined were very nice, but I did not think them any larger than cells built in queenless colonies. But more anon on this subject

THE DOOLITTLE QUEEN-CELL PROTECTORS.

Some years ago we illustrated and de-

scribed the Doolittle device as above. Later, having tested them, we gave a report as to their workings. This report was rather unfavorable. During the latter part of this summer we have been using them again; and where colonies seem determined to tear down cells, they are no doubt a good thing. Our Mr. Spafford says he does not know how we could get along without them, in some cases. When we first tried them, they seemed to be more the *cause* of cells being torn down than an actual protection; but we now know that we did not insert the cells properly. Some of the readers may have forgotten just what these protectors are, and I here reproduce an engraving which we gave a couple of years ago.



THE DOOLITTLE QUEEN-CELL PROTECTOR.

To put in the cell, insert it so that the apex will close the mouth of the protector. It should also retreat a little from the outside edge. Twist the strands of the four corners together, and push it down between the brood-combs. When bees tear down cells they usually make a hole in the side, and rarely attack the end of the cell where the queen gnaws out. As the bees can not get at the sides of the cells, the queen is allowed to hatch when she pleases. One very pleasant thing about these cages is the fact that a cell in one of them is protected from the careless handling of the apiarist. It can be crowded down between the combs, and when the hive is opened again after the lapse of a couple of days, to see if the cell is hatched, the frames can be pulled apart without danger of tearing open the cell. The protector can be lifted out; if the cell is not yet hatched, it can be reinserted between the combs.

A QUEEN - EXCLUDING HONEY-BOARD AS AN ANTI-SWARMER, OR QUEEN-TRAP.

On page 637 of the issue for Aug. 1, in my answer in the Question-Box department, I incidentally mentioned the fact that we had been using a queen - excluding honey-board between the brood-nest and the bottom-board, for the purpose of preventing the queen from going forth with the swarm. Although the idea was original with me, I did not at the time so state it, because I felt quite sure that some one else had antedated me in something so obviously simple and suggestive, in the style of a hive such as the Dovetailed. By an article which we publish on page 669 you will see that Mr. James Heddon tried the same thing in 1884, or earlier. Since that time Mr. John H. Howard, of Holme, near Peterboro, England, a supply-dealer, and a well-known writer for the *British Bee Journal*, writes that we have been using the honey-board in the combination above named, without giving him credit, and says that he used the same thing in

1886, and has since been granted a patent on it in Great Britain, and intimates that he may patent it in the United States. If friend Howard will turn to page 669 he will see that Mr. Heddon has antedated him by two years, which entirely sets aside his getting a patent on the same in the United States; and, if I am not mistaken, it would render the one in Great Britain useless so far as giving him the exclusive use of it is concerned. Now, I should not be at all surprised if some one had used the same idea earlier than 1884. I do not bring this thing up here to provoke controversy, but simply to show that, when we think we are original in a thing, we are pretty apt to be mistaken in these days of progressive bee culture. Please read our comment in reply to A. A. Fradenburg's article, in another column, in regard to priority and early use of raising queen-cells in the upper story of a colony already possessing a queen.

BEES WORKING ON JAPANESE BUCKWHEAT; PHOSPHATE.

For some reason or other, reports have seemed to indicate that the bees pay more attention to other varieties of buckwheat than to Japanese. One of our lady beekeepers, a Mrs. Shane, of Chatham, Ohio, had four acres of Japanese in bloom. Her apiarist told me that the bees fairly swarmed on it during the morning, and sometimes even during the afternoon. By an accident, a part of it was phosphated and a part not. The former was in every way superior to the other. Neighbor H. had some 20 acres near our basswood apiary. He said the bees were working upon it very heavily. He phosphated a part of it, and the rest was put in without phosphate. Bees were working altogether the best on the phosphated. I went down a couple of mornings to see the bees at work; but before I got around to go down, the weather became so dry that but very few bees were upon either patch, although the piece with the phosphate showed some few bees. The stalks on this piece of buckwheat, I should say, were on the average twice as high as the stalks on the other piece without phosphate.

ANOTHER RED-CLOVER QUEEN.

In our home apiary we have a genuine red-clover queen. She is, I think, fully equal to the one which we had several years ago, that showed such remarkable qualities. While the other colonies in the home apiary have been doing little or nothing lately in storing surplus, the bees of this red-clover queen have been storing honey from red clover in the sections right along. There has not been a day, I think, but that they have been busy. Day before yesterday we took off 50 lbs. of section honey, a large portion of which was from red clover. Desiring to raise some queen-cells, we took out two of the brood-combs and inserted a couple of empty ones in their place. Before the queen could deposit an egg in either of them, her bees crammed them full of honey, and this during a time when drouth has been prevailing for almost a month back. The worst part of it is, the queen is already two years old. We shall do all in our power

to preserve her as long as possible, and in the mean time will give her an ample opportunity to raise drones, so that the latter will infuse their blood into some of our own home-bred queens. We shall also commence rearing queens from her. Although not an imported queen, she is a daughter of one. She is not very light-colored and her workers are not extra yellow, although having the three characteristic yellow bands.

OUR MINORCANS.

A couple of months ago, Mr. F. C. Andren, of Port Mahon, Spain, editor of *Revista Apicola*, sent us a Minorcan queen. The bees have hatched out, and some of them are now a month old, so that we have an opportunity of judging somewhat of their disposition. They are nervous, and rather more vindictive than Italians. The queen is exceedingly prolific. The Minorcan bees themselves are black, and look very much like the common blacks of this country. They might also be easily taken for Carniolans, both in color and in general disposition, although I think the Carniolans are not quite so nervous. I will report further in regard to them later.

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

MAKING GARDEN IN SEPTEMBER.

JUST as soon as it begins to be cool weather, I begin to feel an unusual interest in all sorts of gardening that can be done in the fall. Some way or other—I can not exactly tell why—the mellow soil has a wonderful fascination for me just before frost comes, or perhaps a little after frost. At this season of the year, ground that has been tilled is usually in fine nice order; and it has always seemed to me too bad to let it lie idle. Then the question comes up, What is there that we can plant and nurse and care for in the months of September, October, and November? What is there to look fresh and green and thrifty, that frost won't harm? Well, so far as planting seeds is concerned—that is, planting to do any good—our list is a rather small one. Just as soon as any crop is finished and done for, I want to see the ground cleared off, and have something take its place. What can we plant, as one crop after another disappears. At first I was going to say there are only two things that will stand the severest weather here in Ohio. These two are rye and spinach. Spinach, with us, stands just about as severe freezing as does rye. The first is a profitable crop to raise, and can be sold in the winter at any time when there is a thaw; therefore I would have plantings of spinach every week or ten days. Just now is perhaps a good time to start spinach to be wintered over. Rye is sown only to be turned under in the spring, for no one presumes a market-gardener is going to make it pay to raise rye. Well, there is another thing. The winter onions may be planted this month or next, and they will come right up

and grow, and seem to do all the better when the weather gets colder.

Oh, yes! there is still another thing that you can plant, and plant largely, during this month and next, and you can manure the ground and fertilize it, and work it up fine to your heart's content, and with a pretty good prospect of making it pay too. Shall I tell you what it is? Why, *strawberries*. They will grow and send out runners for two months yet, and the frost just makes them handsomer, until it gets to be *severely* cold; and even then, if there is a tolerable covering of snow, they do not seem to be hurt any. Strawberries are my special favorites in these fall months. You have plenty of time to pick off the runners as fast as they appear, and loosen the dirt around the plants, and give them liquid manure. I know some writers say you should not encourage a rank, strong growth late in the fall; but I have never seen a bit of bad effect from it. The plants that I fairly covered up with little chunks of manure, so that when a shower came, the water all around them looked like green ink, gave the biggest crop the next season, of the biggest berries. I do not believe you can hurt a strawberry by excessive stimulating, no matter when you do it. In getting plants for sale, our boys have been in the habit of laying a little lump of dirt or a stone on the runner, to keep it where they wanted it. I saw them at it, and said, "Why, bless your hearts, boys, don't use stones or lumps of dirt. Just get a wheelbarrow full of chunks of rich manure, and lay a lump of manure over each runner, close to the embryo plant."

GARDENING UNDER GLASS

The one who learns to love to see plants grow, will, as frost approaches and increases, very soon begin to feel a longing for some sort of protection. Cucumbers, tomatoes, and ever so many other things, run up in price very quickly when frost appears. Something to keep the frost away will often prove a good investment. Cloth frames answer very well until snow comes. When you begin to get snow on top of your cloth, it is a nuisance. Then you must have wooden shutters, or, better still, glass. Just now thousands are turning their attention to cold-frames, or cold-frame greenhouses to be warmed in different ways. A cold-frame greenhouse is one so made that one can go inside of it. Now a word in regard to setting glass. For the past year we have been using the Ives putty-machine, advertised in our floral and gardening periodicals. With this the putty is diluted with good white paint until it can be forced out in a liquid form, where the glass touches the sash. Dry sand is then blown on the sticky paint as long as the paint will hold it. When dry it is as hard as stone. Now, the Ives putty-machine costs \$1.50; but we decided it was well worth four times the price, because of the saving of labor in setting the glass. One of our boys happened to be in the counter store, and picked off from the 15-cent counter what is called the Atlas insect-powder gun. This is made for blowing pyrethrum or any other powder on the insects. It is

simply an oval rubber ball, with a nozzle attached to one end. By cutting off the strainer from the large end of the nozzle, we had a putty machine all ready for use. Mix your paint and putty just right, fill the rubber ball, then by squeezing the ball you can send a stream of the liquid paint exactly where you want it. Two of our men decided at once they could work faster with the 15-cent machine than they could with the \$1.50 machine. This insect-powder gun can be sent by mail at an expense of only 4 cents for postage.

SAVING TOMATOES FOR SEED.

In answer to several questions, you may save the seed from any tomato that pleases you; and even if you have a dozen varieties in the same row, there is no danger of mixing—at least I have been told so by the experiment-station folks. The present indications are that the *Ignotum* tomato-seed will command a big price next season—perhaps \$1.00 or \$1.50 an ounce; therefore you had better save every seed. To save the seeds, just scoop them out of the tomatoes before you cook or can them; set them in a bowl or dish, with a little water, in some warm place, until the whole mass gets sour. When it is sour enough to begin to smell bad, the seeds will wash out as clean and handsome as you please. Spread them on plates or boards to dry, and that is all there is to it.

COLD-FRAME CABBAGE-PLANTS.

If you are going to have some sash, or even wooden shutters, to cover your cold-frames, this is the month to sow your Jersey Wakefield cabbage-plants. It is often said, that just as good plants can be obtained by sowing them in the greenhouse in February; but my opinion is, that, even if we can, we do not often succeed in getting them. Plants properly wintered in cold-frames may be planted out just as soon as the ground can be worked, even in the latter part of March; and as they have already been frozen up hundreds of times, freezing does not hurt them a bit; and your first cabbages will, as a rule, be from the cold-frame plants. Start them about the middle of September, and get nice plants, just as you would do in spring. In order to get a good stand—that is, just as many and no more than can occupy your cold-frame, you *must* transplant them. They also want to be in the ground clear up to the first leaves, and you can not secure this without transplanting.

THE KUMERLE LIMA BEAN.

The Henderson lima bean is now ready for the table, and some of the pods are ripe and dry. It is all right, except being so small. Its size, in my opinion, is going to rule it out. We are glad to report, however, that the Kumerle has proved to be very prolific, and many of the beans are ready to shell. The probability is, that most of them will escape frost. The Kumerle is a real *honest* bush lima bean: the Henderson is not, for the reasons above given.

400 BUSHELS OF POTATOES TO THE ACRE.

I have this season succeeded in getting over 100 bushels of potatoes from a quarter of an acre. They were Lee's Favorite. At

an expense of 3 cts. per bushel they were dug, picked up, and stored. In my next I will tell you how I did it.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, SEPT. 15, 1889.

Thy testimonies have I taken as a heritage for ever: for they are the rejoicing of my heart.—PSALM 119: 111.

FRENCH, GERMAN, ENGLISH, AND AMERICAN BEE-KEEPERS.

OUR proof-reader, in glancing over foreign exchanges for August, found the following in the *Schweizer Bienenfreund*, from the pen of Mr. T. Kellen, of Luxemburg. Mr. Kellen writes from Paris, in regard to the apicultural display. After describing the American exhibit he says:

This American display is the most noteworthy, practical, and beautiful of all that Americans have till now produced. An enumeration, with a short description of all the hives, implements, products, etc., would fill several volumes. Whoever would describe the same must needs write a complete handbook of American apiculture; and that is something that Europeans still lack. The English and Americans have noticeably surpassed the German bee-keepers (not to speak of others) in many respects. They may at first have learned many things of Germans, I admit; but they have learned how to apply science, and do not remain stationary. To-day can the German and Frenchman go to the English and Americans for instruction. Already what belongs to bee-lore, the Europeans can no longer measure with the Americans. It will be a long time before we in Europe shall have such a work as Root's A B C book, or Langstroth's. The only one, till now, worthy of notice, on this side of the ocean, is Gravenhorst's; and as opposed to that we have numberless works and "worklets;" and the most wonderful part of the whole is, that such books have ever seen the second and third edition.

A VISIT FROM J. W. JENKINS, OF JAMAICA, W. I.

We have just had a very pleasant call from our Jamaica correspondent, Mr. J. W. Jenkins, of Providence, Jamaica, who for three years back has been laboring as a missionary among those semi-civilized people. The island, on account of the interference of various nations, has been drained of its wealth, and the people are almost poverty-stricken. Mr. Jenkins became interested in apiculture, and at once began bee-keeping in his missionary field. His idea was to teach the natives a new source of income; and thus while he was ministering to their spiritual wants he could at the same time give them the means to administer to their own bodily wants. The bees of the island are black, and the honey resources are almost unlimited. Mr. Jenkins is sure that apiculture can be made a profitable means of livelihood, and he is very anxious that the natives have a start in this line. While they have no wintering problem to contend with, they have various species of ants which are very fond of honey, and which, unless checked, would in time prove the total destruction of the colony. To

prevent their depredations, the hives are placed on benches, the legs of which stand in zinc pans of water. There is a species of black ant, which, although very small, will in time rob a colony of its honey. One colony was put upon the ground; and it was a very noticeable fact, he says, that this colony was not doing as well as those upon the benches, the little black ants having visited it so much that its stores were reduced to almost the daily gathering. There is a species of red ant there which is much worse. They will come in droves; and if their nest happens to be at a distance from the hives, they will move into quarters in the immediate vicinity of the bees. From here they will continually sap the colonies until they have, from the ill-gotten stores, become so strong that they will in a single night destroy the colony upon which they have been preying. In most tropical countries these various species of ants are one of the greatest hindrances to bee culture. Our friend A. A. Bunker spoke of their untiring depredations in Burma on his visit to Medina.

PERSONAL LETTERS TO EDITORS WHO PUBLISH FALSE STATEMENTS.

SINCE our article on page 620, of our August 1st issue, urging bee-keepers themselves to write personal letters to offending editors, one of our subscribers has taken up the gauntlet in the following pointed paragraph. He says, in writing to the *Pittsburgh Dispatch*:

In your issue of Sunday, August 25, appeared an article on impurities in sugar by Chevalier Q. Jackson, M. D., in which he undertakes to describe American ingenuity in the manufacture of comb honey. I was greatly surprised on reading this portion of the article, for I had thought that Dr. Jackson prepared himself on the subjects which he wrote, before submitting them to the reading public.

I am convinced that he is mistaken in his statements. If he is not, he should prove their truth and claim the \$1000 reward offered by Mr. A. I. Root, of Medina, O. The latter gentleman stands pledged to pay that amount "to the person who will furnish evidence that comb honey has been manufactured, filled with honey, and capped by machinery; or who will furnish information of any place where comb honey is manufactured by machinery." The *Encyclopædia Britannica* made the same error in an article on "glucose" in its American supplement; but on being notified by Mr. Root, the publishers wrote that they had started an investigation and found that the author "had not as good grounds for his assertion as he should have had."

Those who write to instruct the public should not take hearsay statements and tell their readers they are so. J. B. BLACK, M. D.

Duncan, Pa., Sept. 7, 1889.

That's right, doctor. This is just the way to do up these falsehoods. Editors will publish a correction, brief and courteous, when they will not notice a reprint from a bee-journal. Let more of our subscribers follow the matter up.

GREAT IS TRUTH, AND WILL PREVAIL: THE NEW YORK WORLD IN DEFENSE OF BEE-KEEPERS.

WHILE hundreds of daily and weekly papers have been slandering the comb-honey business by alleging that the article was manufactured and "deftly filled by appropriate machinery," one large daily, without any solicitation from bee-keepers, has come out and stated the honest truth. The daily to which we refer is no less than the *New York World*, which by all odds is the largest daily in the United States, and perhaps in the world. This is the clipping, which has been sent us by one of our subscribers:

HOW HONEY-COMBS ARE MADE.

Helen of Troy, Sea Cliff, L. I.—"Can you tell me

whether honey-combs are always made by bees, or are there such things as patent ones?"—Honey in the comb is always made by bees and never by machinery. When you buy honey in that shape you may feel quite certain it is the genuine article, and that there is no patent on it. Comb foundation made of beeswax is in quite common use. On this the bees form the cells, fill with honey, and cap them.

If this is not coming out "square-toed" in favor of our much-abused industry, then we do not know what better we could have. We desire, in these columns, to thank the editor of the *World* for taking the pains to find out the truth of the matter, instead of copying the slander, which has no foundation. Now, why can't the editors of some of these smaller dailies be just as eager to copy this truth as to scatter broadcast the lying statements of some smart reporter, or the statement of some other periodical? If the *World* is as careful in other things as in this one, no wonder it has the largest circulation, and it deserves it. Give the *World* a boost, every chance you can get, so long as it sticks by the truth; and give the go-by to papers that persist in publishing falsehoods about comb honey. If more bee-keepers would stop those papers that come into their homes, which have maligned our industry, and refuse to make amends, it might help to open the eyes of these editors who have "not time to investigate the truth," but take slander because it is cheap.

Since the foregoing was written, the following item, clipped from the *Family Herald and Weekly Star*, of Montreal, Can., has been sent in. It reads as follows:

ARTIFICIAL COMB HONEY.

The *Family Herald and Weekly Star* recently published, under the heading "Curious Facts" a statement copied from an American paper, to the effect that artificial honey had been made of potato starch and oil of vitriol, the comb being manufactured out of paraffine wax. The item referred to has been going about in the American papers for some time, and the author of it is alleged to be Professor Wiley, of the United States Agricultural Department. Mr. Stewart, of Nairn, Ont., writes that he is willing to give one hundred dollars, and that A. I. Root, of Medina, Ohio, will give one thousand dollars to any one who will show them artificial comb honey and tell them where it is manufactured. But Mr. Stewart and Mr. Root are likely to keep their money, for there is no doubt that they are right. The statement that artificial comb honey has been successfully produced from potato starch, oil of vitriol, and paraffine wax, is not worthy of credence. However, even if the statement were true, it would not in any way reflect on the bee-keepers, who are, undoubtedly, a most conscientious and upright class of persons. Even those who believed the item was trustworthy would not suppose that the artificial honey was made by bee-keepers any more than they would suppose that the oleomargarine substitute for butter was made by dairymen or farmers' wives. If such artificial honey could be made it would come into competition with the bees and bee-keepers just as oleomargarine comes in competition with honest butter and those who make it.

Good for the *Star*! Give it a boost, ye Canadians! Let's patronize the papers that tell the truth about our industry. Let more papers follow suit. Surely truth will triumph in time, but we must keep fighting the falsehoods, and that, too, by *personal* letters from bee-keepers.

And here comes the *Maryland Farmer* for September, with a good square contradiction in regard to artificial comb honey. Friends of the *Maryland Farmer*, here is our hand; and we hope every bee-keeper who lives in your vicinity will express his thanks in the shape of a dollar for your magazine, for one year at least.

A GOOD REPORT FROM DR. MILLER.

Friend A. I.:—I don't know how many times during the last few weeks Mrs. Miller has said to me something like this: "Why don't you write a note to Mr. Root, telling him of your success? He seemed much pleased and interested when here, in the honey flow you were getting." Well, you know that at the time you were here the bees were taking a fresh start at storing. Since that time they kept it up straight along, although rather slowly, still without stop, till last week, about Sept. 5. So I have taken 11,000 or 12,000 lbs. of honey, and have sold it, and am now crowded to get it ready for shipment. You're glad, aren't you? C. C. MILLER.

The above came in a private letter; but I am sure the doctor will pardon us for letting some other friends of his have a glimpse at it. To be sure, we are glad, old friend.

SENDING BEES BY THE HALF-POUND THROUGH THE MAILS.

Our good friend Pratt, of Marlboro, Mass., has actually succeeded in doing it; yes, even where the bees were missent, so as to be out four or five days, instead of two, and they came through with only two or three dead bees. Full particulars are given in the *American Bee Journal* for Sept. 14. Now, while we are pleased to hear of the success of this experiment, we are greatly troubled, for fear the postal authorities may not only rule out bees by the half-pound, but bees and queens. In fact, queens have been sent us repeatedly in such shape that I would not blame the department for shutting down on us. If friend Pratt is permitted to send half-pounds through the mails, other bee-keepers must of course have the same permission; and perhaps not one in a thousand is as well able to put up their bees as is friend Pratt. I do not exactly see how half a pound of bees can well be put up so that the package may not be smashed by some accident; and one such smash-up would perhaps finish the business for us. As Prof. Cook was instrumental in getting queens through the mails when they were once cut off, I should very much like to know his opinion in regard to the matter. Friend Doolittle, who writes the matter up, as well as the editor of the *American Bee Journal*, do not either one seem to apprehend very much trouble in the matter. Besides, sending this trial package through the mails is, if we are correct, a direct violation of our present laws. We have this week received through the mails a glass bottle containing a full half-pint of honey. It did not get broken, but it is a wonder. Friend Doolittle suggests that the powdered sugar rattling down in the mail-bags would be an objection. So far as that is concerned, grinding the sugar in a paint-mill, or otherwise, so that there are no grains at all, will, I think, fix that part of it. Sugar and honey ground together would be like paint or cream. In that state, I feel sure the bees would eat every particle, both of sugar and honey.

SPECIAL NOTICES.

WINTER ONION-SETS.

These will do nicely if planted now. Price 10c per quart, or 75c per peck. If wanted by mail, send 10c per quart extra.

GRAND RAPIDS LETTUCE.

Now is the time to plant Grand Rapids lettuce in the open ground, so as to have fine strong plants for setting in the greenhouse. It is economy to have them make as much growth as possible outdoors, on account of the comparative cheapness of the ground and the saving in expense of watering, airing, etc. With a little rude protection you can get very nice lettuce Thanksgiving and Christmas from seeds planted in the open ground.

STRAWBERRY-PLANTS IN SEPTEMBER.

Since our bountiful rain we are fully supplied with the very finest, well-rooted strawberry-plants,

grown on our river-bottom. We can furnish Sharples at 10 cts. for 10; 50 cts. per 100, or \$4.00 per 1000; Jersey Queen and Jessie, 10 cts. for 10; 75 cts. per 100, or \$5.00 per 1000. At present writing we place the Jessie ahead of every other strawberry we have ever had, for general purposes. The new Bubach, we have not tested as thoroughly as we have the Jessie; but so far as we have tried it, it gives great promise. Prices of the Bubach, 15 cts. for 10; \$1.00 per 100, or \$7.50 per 1000. The latter is perhaps the largest berry we have ever had any thing to do with; but when ripe it is very soft, and must be handled carefully. By using pint boxes, however, and getting them before customers pretty quickly after they are fully ripe, you can get along very well. If you are having rain, I do not know any better month to set out strawberries than September. We have been obliged to increase the postage on our strawberry-plants, because they are so much larger and heavier than any we have ever before raised. If wanted by mail, add 5 cts. extra for 10, or 20 cts. for 100.

DISCOUNTS TO THOSE WHO ORDER GOODS FOR NEXT SEASON'S USE NOW.

According to our usual custom, we offer the following discounts for early orders. The reasons for this are many, and the reasons why you should take advantage of our offer are many more. Our main reason for making the offer is to divert as much as possible of the trade out of the very crowded months of the spring into the fall and winter, and thus equalize business as much as possible. If you know pretty well a large part of your next spring's needs, you should, by all means, anticipate these needs for these reasons, and many more that might be named.

1. It is to your profit, if you have the money to invest, both in the first cost of the goods and in the economy in preparing them for use. You can nail your stuff together more economically in the winter time, when there is not much else to do, than at any other time. Hives painted in the winter will become thoroughly dry by the time you are ready to use them, and will last much longer.

2. By anticipating your needs you can give the goods ample time to reach you by freight. Time and again the past season, customers have sent large orders for goods by express, and said they knew the charges would be high, but they could not wait for freight; they "must have the goods at once." These high charges might have been saved by a little forethought.

3. By ordering early you avoid the danger and worry of having your orders delayed, and the risk of losing a large part of your honey crop thereby. The past season, as near as we have been able to learn, all supply-dealers were more or less behind on their orders. This is no more than should be expected with such an unusual demand. Our goods, from their nature, being bulky, it is manifestly impossible to stock up sufficiently to meet such a demand, and it is also impossible to meet the demand by extra help and machinery, because competent help can not be had in a day, and the extra work must necessarily be of poor quality. The easiest and most sensible way out of the difficulty is for you who know your needs to have them supplied ahead; and if you haven't looked far enough, and should want more goods in the spring in a hurry, we will try to remember how you helped us out, and will in return give you as prompt attention as possible.

We have decided on the following discounts, which are sufficiently liberal to make it a profitable investment for you, and the discounts will apply to every thing in our catalogue ordered for next season's use. They can not, of course, apply to large orders for counter goods or honey-packages; but if only a few of them are included with an order for hives, etc., then the discount may be taken from the whole bill.

Up to November 1st, discount will be 5 per cent. After that date, one per cent a month for each month before March; i. e., 4 per cent in November, 3 per cent in December, 2 per cent in January, and 1 per cent in February. One per cent a month is equal to 12 per cent per annum, and money can be had in most places for 6 and 8 per cent, so that you see that, although our offer is not quite as liberal as formerly, it is still profitable, and we trust that many of you will find it to your advantage to avail yourselves of it. Remember, our discounts for large orders on page 2 of catalogue are applicable in addition to above discounts.

GLEANINGS IN BEE CULTURE.

Books for Bee-Keepers and Others.

Any of these books on which postage is not given will be forwarded by mail, *postpaid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment, if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them for sale, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage shall not be disappointed, and therefore I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *; those I especially approve, **; those that are not up to times, †; books that contain but little matter for the price, large type, and much space between the lines, ‡; foreign, §.

BIBLES, HYMN-BOOKS, AND OTHER GOOD BOOKS.

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As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice, that you can judge of the size of the books very well, by the amount required for postage on each.

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| 10 | Quincy's New Bee-Keeping**..... | 1 40 |
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| 4 | Success in Bee Culture, by James Heddon*..... | 46 |
| | The Production of Comb Honey, by W. Z. Hutchinson**..... | 25 |

The Apiary; or, Bees, Bee-Hives, and Bee Culture, by Geo. Neighbour & Sons, England*§..... 1 75
British Bee-keeper's Guide - Book, by Thos. Wm. Cowan, Esq., England*§..... 40

3 | Merrybanks and His Neighbor, by A. I. Root..... 25

MISCELLANEOUS HAND-BOOKS.

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| 5 | A B C of Carp Culture, **..... | 35 |
| 3 | A B C of Potato Culture, Terry**..... | 35 |
| | This is T. B. Terry's first and most masterly work. The book has had an enormous sale, and has been reprinted in foreign languages. When we are thoroughly conversant with friend Terry's system of raising potatoes, we shall be ready to handle almost any farm crop successfully. It has 48 pages and 22 illustrations. | |
| 5 | An Egg-Farm, Stoddard**..... | 45 |
| | Barn Plans and Out-Buildings*..... | 1 50 |
| | Cranberry Culture, White's..... | 1 25 |
| | Canary Birds: paper, 50c; cloth*..... | 75 |
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6 | Fuller's Practical Forestry*..... 1 40

10 | Farming For Boys*..... 1 15
This is one of Joseph Harris' happiest productions, and it seems to me that it ought to make farm-life fascinating to any boy who has any sort of taste for gardening.

10 | Fuller's Grape Culturist**..... 1 40

7 | Farm, Gardening, and Seed Growing, by Francis Brill*..... 90

This is by Francis Brill, the veteran seed-grower, and is the only book on gardening that I am aware of that tells how market-gardeners and seed-growers raise and harvest their own seeds. It has 166 pages.

10 | Gardening for Pleasure, Henderson*..... 1 40

While "Gardening for Profit" is written with a view of making gardening PAY, it touches a good deal on the pleasure part; and "Gardening for Pleasure" takes up this matter of beautifying your homes and improving your grounds, without the special point in view of making money out of it. I think most of you will need this if you get "Gardening for Profit." This work has 216 pages and 134 illustrations.

12 | Gardening for Profit, new edition**..... 1 85

This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get but one book, let it be the above. It has 376 pages and 138 cuts.

3 | Gardening for Young and Old, Harris**..... 1 25

This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparing your ground; and this matter of adapting it to young people as well as to old is brought out in a most happy vein. If your children have any sort of fancy for gardening it will pay you to make them a present of this book. It has 187 pages and 46 engravings.

Gray's School and Field Book of Botany..... 1 80

5 | Gregory on Cabbages; paper*..... 25

5 | Gregory on Squashes; paper*..... 25

5 | Gregory on Onions; paper*..... 25

The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost anybody, whether they raise squashes or not. It strikes at the very foundation of success in almost any kind of business.

10 | Household Conveniences..... 1 40

2 | How to Propagate and Grow Fruit, Greer*..... 25

5 | How to Make Candy**..... 45

10 | How to Keep Store*..... 1 00

2 | Injurious Insects, Cook..... 25

10 | Irrigation for the Farm, Garden, and Orchard, Stewart*..... 1 49

This book, so far as I am informed, is almost the only work on this matter that is attracting so much interest, especially recently. Using water from springs, brooks, or windmills, to take the place of rain, during our great droughts, is the great problem before us at the present day. The book has 274 pages and 142 cuts.

3 | Maple Sugar and the Sugar-Bush,**..... 35

By Prof. A. J. Cook. This was written in the spring of 1887, at my request. As the author has, perhaps, one of the finest sugar-camps in the United States, as well as being an enthusiastic lover of all farm industries, he is better fitted, perhaps, to handle the subject than any other man. The book is written in Prof. Cook's happy style, combining wholesome moral lessons with the latest and best method of managing to get the finest sugar and maple syrup, with the least possible expenditure of cash and labor. Everybody who makes sugar or molasses wants the sugar-book. It has 42 pages and 38 cuts.

1 | Poultry for Pleasure and Profit**..... 10

11 | Practical Floriculture, Henderson*..... 1 35

2 | Peach Culture, Fulton's..... 1 50

2 | Profits in Poultry..... 90

2 | Silk and the Silkworm..... 10

10 | Small-Fruit Culturist, Fuller*..... 1 40

10 | Success in Market-Gardening*..... 90

This is new book by a real, live, enterprising, successful market-gardener who lives in Arlington, a suburb of Boston, Mass. Friend Lawson has been one of the foremost to make irrigation a practical success, and he now irrigates his grounds by means of a windmill and steam-engine whenever a drought threatens to injure the crops. The book has 208 pages, and is nicely illustrated with 110 engravings.

10 | Talks on Manures*..... 1 90

This book, by Joseph Harris is, perhaps, the best comprehensive one we have on the subject, and the whole matter is considered by an able writer. It contains 366 pages.

2 | The Carpenter's Steel Square and its Uses; Hodgson; Abridged..... 15

2 | Treatise on the Horse and his Diseases..... 10

10 | The New Agriculture, or the Waters Led Captive..... 1 00

3 | Winter Care of Horses and Cattle..... 40

This is friend Terry's second book in regard to farm matters; but it is so intimately connected with his potato-book that it reads almost like a sequel to it. If you have only a horse or a cow, I think it will pay you to invest in the book. It has 44 pages, and 4 cuts.

8 | What to Do, and How to be Happy While Doing It, by A. I. Root..... 50

3 | Wood's Common Objects of the Microscope**..... 47

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A. I. ROOT, Medina, Ohio

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